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TO: Kevin Weddington **Location: REM-4B87/4C70** **Art Unit: 1614** **Thursday, April 29, 2004** **Case Serial Number: 09/935371**	**From: Edward Hart** **Location: Biotech-Chem Library** **REM-1A55** **Phone: 571-272-2512** **edward.hart@uspto.gov**

Search Notes

Examiner Weddington,

Here are the results of the search you requested.

Please feel free to contact me if you have any questions.

Edward Hart

REM-4987

SEARCH REQUEST FORM

U.S. DEPARTMENT OF COMMERCE
Patent and Trademark Office

Requestor's Name: K. Weddington

Serial Number: 09/935,371

Date: 4-26-04 Phone: 272-0587 Art Unit: 1614

Search Topic:
Please write a detailed statement of search topic. Describe specifically as possible the subject matter to be searched. Define any terms that may have a special meaning. Give examples or relevant citations, authors keywords, etc., if known. For sequences, please attach a copy of the sequence. You may include a copy of the broadest and/or most relevant claim(s).

Search

Pituitary adenylate cyclase activating polypeptide agonists.

(PACAP) agonists broadly.

Any compound

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Date completed: 4/29/04
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_____ A.A. Sequence
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PTO-1590 (8-90)
* U.S. GPO: 1995-398-798/22489

USCOMM-DC 90-3952

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FILE COVERS 1907 - 29 Apr 2004  VOL 140 ISS 18
FILE LAST UPDATED: 28 Apr 2004  (20040428/ED)

 This file contains CAS Registry Numbers for easy and accurate
 substance identification.


=> d stat que
L1          216 SEA FILE=REGISTRY ABB=ON  PLU=ON  PACAP/BI
L2         1896 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L1
L5        97518 SEA FILE=HCAPLUS ABB=ON  PLU=ON  PITUITARY/BI
L6        36638 SEA FILE=HCAPLUS ABB=ON  PLU=ON  ADENYLATE/BI
L7        45187 SEA FILE=HCAPLUS ABB=ON  PLU=ON  CYCLASE/BI
L8       128122 SEA FILE=HCAPLUS ABB=ON  PLU=ON  POLYPEPTIDE/BI
L9         1712 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L2 AND (L5 OR L6 OR L7 OR L8)

L10         235 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L9 AND (AMINO (W) ACID)
L11          22 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L10 AND AGONIST


=> d ibib abs hitrn l11 tot

L11  ANSWER 1 OF 22  HCAPLUS  COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER:         2002:204667  HCAPLUS
DOCUMENT NUMBER:          136:319616
TITLE:                    Pituitary adenylate
                          cyclase-activating polypeptide and
                          PACAP receptor expression and function in the rat
                          adrenal gland
AUTHOR(S):                Mazzocchi, Giuseppina; Malendowicz, Ludwik K.; Neri,
                          Giuliano; Andreis, Paola G.; Ziolkowska, Agnieszka;
                          Gottardo, Lucia; Nowak, Krzysztof W.; Nussdorfer,
                          Gastone G.
CORPORATE SOURCE:         Department of Human Anatomy and Physiology, Section of
                          Anatomy, University of Padua, Padua, I-35121, Italy
SOURCE:                   International Journal of Molecular Medicine (2002),
                          9(3), 233-243
                          CODEN: IJMMFG; ISSN: 1107-3756
PUBLISHER:                International Journal of Molecular Medicine
DOCUMENT TYPE:            Journal
LANGUAGE:                 English
AB   Pituitary adenylate cyclase-activating
     polypeptide (PACAP) is a basic 38-amino acid
     peptide, which acts through three main G protein-coupled VIP/PACAP
     receptor subtypes, called PAC1, VPAC1 and VPAC2.  The authors have
     investigated the expression and function of PACAP and its receptors in the
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rat adrenal gland. Reverse transcription (RT)-polymerase chain reaction (PCR) and radioimmune assay (RIA) allowed the detection of PACAP expression as mRNA and protein exclusively in adrenal medulla (AM). RT-PCR and quant. autoradiog., using [125I]PACAP and selective VIP/PACAP receptor ligands, demonstrated the expression of PAC1 only in AM, and VPAC1 and VPAC2 in both AM and zona glomerulosa (ZG), PACAP receptor expression being absent in zona fasciculata/reticularis (ZF/R). PACAP38 concentration-dependently increased aldosterone secretion from dispersed ZG cells and catecholamine secretion from AM tissue, the maximal effective concentration being 10-7 M. ZF/R cells did not display any secretory response to PACAP38. Aldosterone response of ZG cells to 10-7 M PACAP38 was unaffected by the PAC1-antagonist (A) PACAP(6-38), and significantly decreased by the VPAC1-A [Ac-His1,D-Phe2,Lys15,Arg16]VIP(3-7) GRF(8-27)-NH2. Catecholamine response of AM tissue to PACAP38 was reduced, but not abolished, by both PAC1-A and VPAC1-A. The VPAC2 **agonist** (ago) Ro25-1553 elicited sizeable secretory responses from both ZG cells and AM tissue. PACAP38 (10-7 M) evoked a marked rise in cyclic-AMP (cAMP) and inositol-1,4,5-triphosphate (IP3) production by ZG cells and AM tissue. The cAMP response of ZG cells was lowered by VPAC1-A, and that of AM tissue by both PAC1-A and VPAC1-A. IP3 response of ZG cells and AM tissue was unaffected by PAC1-A and decreased by VPAC1-A. VPAC2-ago did not affect cAMP release, but raised IP3 production by both ZG cells and AM tissue. Aldosterone response of ZG cells and catecholamine response of AM tissue to PACAP38 (10-7 M) were reduced by the **adenylate cyclase** (AC) and phospholipase-C (PLC) inhibitors (I) SQ-22536 and U-73122, as well as by the protein kinase (PK)A-I H-89 and PKC-I calphostin-C. Conversely, the secretory responses of both ZG and AM prepns. to VPAC2-ago were annulled by PLC-I, lowered by PKC-I, and unaffected by either AC-I or PKA-I. Collectively, the authors' findings allow the conclusions that in the rat adrenals: (i) PACAP biosynthesis exclusively occurs in the AM; (ii) ZG cells are provided with functional VPAC1 and VPAC2 receptors, whose activation by PACAP evokes a moderate aldosterone response; (iii) AM cells possess all the subtypes of VIP/PACAP receptors, whose activation by PACAP elicits a marked catecholamine response; and (iv) PAC1 receptors are coupled to the AC-dependent cascade, VPAC1 receptors to both the AC- and PLC-dependent cascades, and VPAC2 receptors exclusively to the PLC-dependent cascade.

IT **128606-20-2, Pituitary adenylate cyclase**-activating peptide-38
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(PACAP and PACAP receptor expression and function in rat adrenal gland and involved signaling mechanisms)

REFERENCE COUNT: 65 THERE ARE 65 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 2 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:4894 HCAPLUS
DOCUMENT NUMBER: 136:178321
TITLE: ECL-cell histamine mobilization in conscious rats: effects of locally applied regulatory peptides, candidate neurotransmitters and inflammatory mediators
AUTHOR(S): Norlen, P.; Bernsand, M.; Konagaya, T.; Hakanson, R.
CORPORATE SOURCE: Department of Pharmacology, Institute of Physiological Sciences, University of Lund BMC F13, Lund, S-221 84, Swed.
SOURCE: British Journal of Pharmacology (2001), 134(8), 1767-1777
CODEN: BJPCBM; ISSN: 0007-1188
PUBLISHER: Nature Publishing Group
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The ECL cells control gastric acid secretion by mobilizing histamine in

response to circulating gastrin. In addition, the ECL cells are thought to operate under nervous control and to be influenced by local inflammatory processes. The purpose of the present study was to monitor histamine mobilization from ECL cells in conscious rats in response to locally applied regulatory peptides, candidate neurotransmitters and inflammatory mediators. Microdialysis probes were implanted in the submucosa of the acid-producing part of the rat stomach. Three days later, the agents to be tested were administered via the microdialysis probe and their effects on basal (48 h fast) and stimulated (i.v. infusion of gastrin-17, 3 nmol kg-1 h-1) mobilization of ECL-cell histamine was monitored by continuous measurement of histamine in the perfusate (RIA). Locally administered gastrin-17 and sulfated cholecystokinin-8 mobilized histamine as did **pituitary adenylate cyclase**-activating peptide-27, vasoactive intestinal peptide, peptide YY, metabolism-enkephalin, endothelin and noradrenaline, adrenaline and isoprenaline. While gastrin, sulfated-cholecystokinin-8, met-enkephalin and isoprenaline induced a sustained elevation of the submucosal histamine concentration, endothelin, peptide YY, **pituitary adenylate cyclase** activating peptide, vasoactive intestinal peptide, noradrenaline and adrenaline induced a transient elevation. Calcitonin gene-related peptide, galanin, somatostatin and the prostanoid misoprostol inhibited gastrin-stimulated histamine mobilization. The gut hormones neurotensin and secretin and the neuropeptides gastrin-releasing peptide, neuropeptide Y and substance P failed to affect ECL-cell histamine mobilization, while motilin and neuromedin U-25 had weak stimulatory effects. Also acetylcholine, carbachol, serotonin and the **amino acid** neurotransmitters aspartate, γ-aminobutyric acid, glutamate and glycine were inactive or weakly active as was bradykinin. In summary, a range of circulating hormones, local hormones, catecholamines, neuropeptides and inflammatory mediators participate in controlling the activity of rat stomach ECL cells in situ.

IT **129069-75-6**, PACAP-27
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(regulatory peptides, candidate neurotransmitters and inflammatory mediators local application effect on stomach ECL-cell histamine mobilization in conscious rats)

REFERENCE COUNT: 79 THERE ARE 79 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 3 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:466866 HCAPLUS
DOCUMENT NUMBER: 133:172274
TITLE: Characterization of a novel VPAC1 selective **agonist** and identification of the receptor domains implicated in the carboxyl-terminal peptide recognition
AUTHOR(S): Van Rampelbergh, Jean; Juarranz, Maria-Guillerma; Perret, Jason; Bondue, Antoine; Solano, Rosa Maria; Delporte, Christine; De Neef, Philippe; Robberecht, Patrick; Waelbroeck, Magali
CORPORATE SOURCE: Laboratory of Biological Chemistry and Nutrition, Faculty of Medicine, Universite Libre de Bruxelles, Brussels, Belg.
SOURCE: British Journal of Pharmacology (2000), 130(4), 819-826
CODEN: BJPCBM; ISSN: 0007-1188
PUBLISHER: Nature Publishing Group
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Vasoactive Intestinal **Polypeptide** (VIP) interacts with a high affinity to two subclasses of G protein coupled receptors named VPAC1 and VPAC2, and has a 3-10-fold preference for VPAC1 over VPAC2 receptors. Selective ligands for each receptor subclass were recently described.

[R16]-PACAP (1-23) and [L22]-VIP are two selective VPAC1 **agonists**. Chimeric human VPAC2-VPAC1 recombinant receptors expressed in CHO cells were used to identify the receptor domains implicated in these two selective ligands recognition. The VPAC2 preference for [R16]-PACAP (1-27) over [R16]-PACAP (1-23) did not require the receptor's N-terminus domain but involved the whole transmembrane domain. In contrast, the selectivity of [L22]-VIP depended only on the presence of the N-terminus and EC2 domains of the VPAC1 receptor. The present data support the idea that in the GPCR-B family of receptors the different selective ligands require different domains for their selectivity, and that the peptides C-terminal sequence (**amino acids** 24-27) folds back on the transmembrane receptor domain, close to the peptides, amino terminus.

IT **127317-03-7**, Human PACAP (1-27)
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PROC (Process)
(characterization of a novel VPAC1 selective **agonist** and identification of receptor domains implicated in carboxyl-terminal peptide recognition)

REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 4 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:155855 HCAPLUS
DOCUMENT NUMBER: 132:288902
TITLE: A mutation in the second intracellular loop of the **pituitary adenylate cyclase** activating **polypeptide** type I receptor confers constitutive receptor activation
AUTHOR(S): Cao, Y.-J.; Gimpl, G.; Fahrenholz, F.
CORPORATE SOURCE: Institut fur Biochemie, Johannes Gutenberg-Universitat Mainz, Mainz, D-55099, Germany
SOURCE: FEBS Letters (2000), 469(2,3), 142-146
CODEN: FEBLAL; ISSN: 0014-5793
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The **pituitary adenylate cyclase** activating **polypeptide** (PACAP) type I receptor belongs to the glucagon/secretin/vasoactive intestinal **polypeptide** (VIP) receptor family. We mutated and deleted an **amino acid** residue (E261) which is located within the second intracellular loop of the rat PACAP type I receptor and which is highly conserved among the receptor family. The wild-type receptor and the mutant receptors were efficiently expressed at the surface of COS-7 cells at nearly the same level and revealed the same high affinity for the **agonist** PACAP-27. The cAMP contents of COS cells transfected with the E261A, E261Q, and the deletion mutant receptor were 4.6-, 5.7-, and 6.7-fold higher as compared with COS cells transfected with the wild-type receptor. Thus, all the mutant PACAP receptors were constitutively active. The data suggest that the glutamic acid in the second intracellular loop of the PACAP receptor may be a key residue to constrain the receptor in the inactive conformation with respect to its coupling to Gs proteins.

IT **129069-75-6**, PACAP-27
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(PACAP type I receptor mutation in 2nd intracellular loop confers constitutive receptor activation)

IT **137061-48-4**, **Pituitary adenylate cyclase**-activating peptide
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(PACAP type I receptor mutation in 2nd intracellular loop confers constitutive receptor activation)

REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 5 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:129025 HCAPLUS
DOCUMENT NUMBER: 132:319692
TITLE: PACAP-38 is a chemorepellent and an **agonist** for the lysozyme receptor in Tetrahymena thermophila
AUTHOR(S): Mace, S. R.; Dean, J. G.; Murphy, J. R.; Rhodes, J. L.; Kuruvilla, H. G.
CORPORATE SOURCE: Department of Science and Mathematics, Cedarville College, Cedarville, OH, 45314, USA
SOURCE: Journal of Comparative Physiology, A: Sensory, Neural, and Behavioral Physiology (2000), 186(1), 39-43
CODEN: JCPADN; ISSN: 0340-7594
PUBLISHER: Springer-Verlag
DOCUMENT TYPE: Journal
LANGUAGE: English
AB **Pituitary adenylate cyclase** activating peptide (PACAP-38) is a peptide hormone which functions in many mammalian systems, including the nervous and digestive systems. Using in vivo behavioral studies, we have found that this hormone functions as a chemorepellent in Tetrahymena thermophila with an EC50 of 10 nM. Cells previously adapted to PACAP-38 were found to be adapted to lysozyme, and vice versa. Furthermore, the in vivo behavioral activity of PACAP-38 was blocked by addition of the anti-lysozyme receptor antibody, 5545. Chemorepellent activity of PACAP-38 was also inhibited by the addition of neomycin sulfate (inhibition constant Ki = 0.080 μmol·l-1), a competitive inhibitor of lysozyme binding to its receptor. PACAP-38 is a more potent and specific **agonist** for the lysozyme receptor than either intact lysozyme or CB2, a 24-**amino acid** fragment of lysozyme.
IT **128606-20-2**, PACAP-38
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(PACAP-38 is a chemorepellent and an **agonist** for the lysozyme receptor in Tetrahymena thermophila)
REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 6 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1999:536447 HCAPLUS
DOCUMENT NUMBER: 131:284161
TITLE: Functional characterization of structural alterations in the sequence of the vasodilatory peptide maxadilan yields a **pituitary adenylate cyclase**-activating peptide type 1 receptor-specific antagonist
AUTHOR(S): Moro, Osamu; Wakita, Kaori; Ohnuma, Manami; Denda, Sumiko; Lerner, Ethan A.; Tajima, Masahiro
CORPORATE SOURCE: Shiseido Research Center, Kanagawa, 223-8553, Japan
SOURCE: Journal of Biological Chemistry (1999), 274(33), 23103-23110
CODEN: JBCHA3; ISSN: 0021-9258
PUBLISHER: American Society for Biochemistry and Molecular Biology
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Maxadilan is a vasodilatory peptide derived from sand flies that is an **agonist** at the **pituitary adenylate cyclase**-activating peptide (PACAP) type 1 receptor. Surprisingly, maxadilan does not share significant sequence homol. with PACAP. To

examine the relationship between structure and activity of maxadilan, several **amino acid** substitutions and deletions were made in the peptide. These peptides were examined in vitro for binding to crude membranes derived from rabbit brain, a tissue that expresses PACAP type 1 receptors; and induction of cAMP was determined in PC12 cells, a line that expresses these receptors. The peptides were examined in vivo for their ability to induce erythema in rabbit skin. Substitution of the individual cysteines at positions 1 and 5 or deletion of this ring structure had little effect on activity. Substitution of either cysteine at position 14 or 51 eliminated activity. Deletion of the 19 **amino acids** between positions 24 and 42 resulted in a peptide with binding, but no functional activity. The capacity of this deletion mutant to interact with COS cells transfected with the PACAP type 1 receptor revealed that this peptide was a specific antagonist to the PACAP type 1 receptor.

IT **124123-15-5 127317-03-7 136134-68-4 143748-18-9**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(maxadilan structure-PACAP receptor-binding activity)

REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 7 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1999:100842 HCAPLUS
DOCUMENT NUMBER: 130:164020
TITLE: cDNA sequence and molecular cloning of the human G protein-coupled **pituitary adenylate cyclase** activating **polypeptide**-like receptor HCEGH45
INVENTOR(S): Soppet, Daniel R.; Li, Yi; Rosen, Craig A.; Ruben, Steven M.
PATENT ASSIGNEE(S): Human Genome Sciences, Inc., USA
SOURCE: U.S., 37 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5869632	A	19990209	US 1995-465976	19950606
US 5958729	A	19990928	US 1997-982412	19971202

PRIORITY APPLN. INFO.: US 1995-465976 19950606

AB A human G-protein receptor HCEGH45 **polypeptide** and cDNA encoding such **polypeptide**, and a procedure for producing such **polypeptide** by recombinant techniques is disclosed. The cDNA sequence and corresponding deduced **amino acid** sequence of two isoforms of the G-protein receptor HCEGH45 (putative **pituitary adenylate cyclase**-activating **polypeptide** (PACAP) receptor) are provided in this invention. The HCEGH45 isoforms (874 and 884 **amino acids**) exhibit homol. to the rat PACAP-like receptor. Recombinant techniques for expression of the receptor are described, including (1) expression in COS-7 cells using plasmid HCEGH45-HA (derived from vector pcDNAI/Amp), (2) cloning and expression using the baculovirus expression system with the pA2 vector (a modification of the pVL941 vector) in Sf9 cells, and (3) expression via gene therapy with the pMV-7 vector based on the Moloney murine sarcoma virus backbone. The secondary structural features of the HCEGH45 receptor were also included in this invention. This invention also eluded to possible biol., diagnostic and therapeutic uses of the human HCEGH45 receptor, including (1) use in identifying antagonists and

agonists to HCEGH45 receptor which could be used to treat disorders and (2) use in detecting mutations in the nucleotide sequence of the receptor and/or in detecting the level of the soluble form of the receptor in a sample derived from a host.

IT **185969-91-9P 208883-11-8P 220454-94-4P**
RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**amino acid** sequence; of the two isoforms (874 and 884 **amino acids**) of human G protein-coupled receptor HCEGH45, a PACAP-like receptor)

IT **185969-90-8 208883-12-9 220454-62-6**
RL: BUU (Biological use, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(nucleotide sequence; of cDNAs encoding the two isoforms (874 and 884 **amino acids**) of human G protein-coupled receptor HCEGH45, a PACAP-like receptor)

IT **137061-48-4, Pituitary adenylate cyclase**-activating **polypeptide**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(receptor for; cDNA sequence and mol. cloning of the human G protein-coupled **pituitary adenylate cyclase** activating **polypeptide**-like receptor HCEGH45)

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 8 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1999:69169 HCAPLUS
DOCUMENT NUMBER: 130:291716
TITLE: Multiple actions of a hybrid PACAP antagonist: neuronal cell killing and inhibition of sperm motility
AUTHOR(S): Gozes, Illana; Perl, Orly; Zamostiano, Rachel; Rubinraut, Sara; Fridkin, Mati; Shochat, Leah; Lewin, Lawrence M.
CORPORATE SOURCE: Department of Clinical Biochemistry, Sackler School of Medicine, Tel Aviv University, Tel Aviv-Jaffa, 69978, Israel
SOURCE: Annals of the New York Academy of Sciences (1998), 865(VIP, PACAP, and Related Peptides), 266-273
CODEN: ANYAA9; ISSN: 0077-8923
PUBLISHER: New York Academy of Sciences
DOCUMENT TYPE: Journal
LANGUAGE: English

AB **Pituitary** stimulating **adenylate cyclase** (PACAP) is a major regulatory peptide with two active mol. forms: PACAP-27 and PACAP-38. Both mol. forms promote neuronal survival and protect against neurotoxicity. Based on our previous hybrid peptide strategy in designing vasoactive intestinal peptide (VIP) antagonists, novel PACAP analogs were synthesized (neurotensin6-11 PACAP7-27 and neurotensin6-11 PACAP7-38). In addition to the hybrid modification, the methionine in position 17 was replaced by norleucine (Nle). Treatment of rat cerebral cortical cultures for five days with the putative PACAP antagonists (1 nM) resulted in a 35-45 % reduction in neuronal cell counts as compared to controls. Neuronal cell death was already obtained at picomolar concns. for the neurotensin6-11 PACAP7-27 antagonist with 70% death at 10-8 M. Co-administration of the PACAP hybrid analog with picomolar amts. of PACAP-27 or Nle17-PACAP-27 attenuated the reduction in neuronal cell counts. While the protective effects of both analogs exhibited a peak at 1 pM concns., the Nle-containing **agonist** displayed a broader range of active concns. (10-12 M-10-9 M). The putative PACAP antagonist also inhibited sperm motility (golden hamster) in a dose-dependent manner as assessed in vitro. Complete inhibition was observed at 10 μM, suggesting a role for PACAP in sperm motility and sexual function. Thus, previous

findings of a large number of PACAP and PACAP receptors in the nervous system and the reproductive system are now correlated with a function in neuronal survival and sperm motility. The structure-activity studies suggest that the methionine in position 17 and the first six **amino acids** are important in the determination of PACAP activity, knowledge that may facilitate PACAP-based drug design.

IT **137061-48-4**, **Pituitary adenylate cyclase**-activating peptide
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(hybrid PACAP antagonist induction of neuronal cell killing and inhibition of sperm motility)

IT **127317-03-7**, Human PACAP-27 **128606-20-2**, PACAP-38
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(neuronal protection and sperm motility response to PACAP and structure-activity relations therein)

REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 9 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1999:69167 HCAPLUS
DOCUMENT NUMBER: 130:277009
TITLE: Maxadilan is a specific **agonist** and its deleted peptide (M65) is a specific antagonist for PACAP type 1 receptor
AUTHOR(S): Uchida, D.; Tatsuno, I.; Tanaka, T.; Hirai, A.; Saito, Y.; Moro, O.; Tajima, M.
CORPORATE SOURCE: Second Deptartment of Internal Medicine, Chiba University School of Medicine, China, 260, Japan
SOURCE: Annals of the New York Academy of Sciences (1998), 865(VIP, PACAP, and Related Peptides), 253-258
CODEN: ANYAA9; ISSN: 0077-8923
PUBLISHER: New York Academy of Sciences
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Maxadilan is a potent vasodilator peptide isolated from salivary glands exts. of the hematophagous sand fly. Recently, it was demonstrated that maxadilan binds to PACAP receptor type 1 in mammals, although maxadilan has no significant **amino acid** sequence homol. with PACAP. In the present study, the authors demonstrated that maxadilan is a specific **agonist** of PACAP type 1 receptor (PACAP/VIP receptor 1; PVR1) as determined by the binding assay of [125I]PACAP27 and cAMP accumulation using CHO cells stably expressing PVR1, VIP1 receptor (PVR2), and VIP2 receptor (PVR3), and that the deleted peptide (**amino acids** 25-41) of maxadilan (termed as M65) is a specific antagonist of PVR1. In addition, maxadilan shares the binding sites for PACAP and stimulates cAMP accumulation in cultured rat cortical neurons. VIP stimulates cAMP accumulation probably through the binding to PVR1 since M65 blocks the VIP-induced cAMP accumulation in cultured rat cortical neurons.

IT **128606-20-2**, PACAP38 **129069-75-6**, PACAP27
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(maxadilan is a specific **agonist** and its deleted peptide (M65) is a specific antagonist for PACAP type 1 receptor)

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 10 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1999:69166 HCAPLUS
DOCUMENT NUMBER: 130:277067
TITLE: Analogs of VIP, helodermin, and PACAP discriminate

between rat and human VIP1 and VIP2 receptors
AUTHOR(S): Gourlet, P.; Vandermeers, A.; Van Rampelbergh, J.; De Neef, P.; Cnudde, J.; Waelbroeck, M.; Robberecht, P.
CORPORATE SOURCE: Department of Biochemistry and Nutrition, School of Medicine, Universite Libre de Bruxelles, Brussels, B-1070, Belg.
SOURCE: Annals of the New York Academy of Sciences (1998), 865(VIP, PACAP, and Related Peptides), 247-252
CODEN: ANYAA9; ISSN: 0077-8923
PUBLISHER: New York Academy of Sciences
DOCUMENT TYPE: Journal
LANGUAGE: English

AB VIP acts through interaction with two subclasses of seven transmembrane G protein-coupled receptors named VIP1 and VIP2 receptors. These receptors have been cloned in different species, such as rat and human. Considering the different distribution of both receptor subclasses, there is considerable interest in the development of selective **agonists** and antagonists. The present study compares the binding properties of VIP, PACAP, GRF, secretin, and helodermin analogs on recombinant rat and human VIP1 and VIP2 receptors. On both rat and human receptors, secretin and GRF had a higher affinity for the VIP1 receptor subtypes. The amino-shortened VIP, and the C-terminal-shortened VIP and PACAP analogs also presented a higher affinity for the VIP1 receptor. PHI, PHV, helodermin, and helospectin were selective for the human VIP2 receptor subtypes. These results suggest that the helical structure of the C-terminal end is necessary for VIP2 recognition. The differences between species were the following: PHI, PHV, helodermin, and helospectin had a higher affinity for the rat VIP1 receptor than for the human VIP1 receptor. On both rat and human receptors, D-Ala4-VIP and D-Phe4-VIP had a high affinity for the VIP1 receptor and a low affinity for the VIP2 receptor. Thus, three domains of the ligand involved in VIP1/VIP2 receptor discrimination were identified: the **amino acid** residue in position 4 ([D-Ala4], [D-Phe4]VIP), in positions 8 and 9 (the effects of helodermin and helospectin), and the C-terminal end (the effects of the shortened VIP and PACAP analogs).

IT **129069-75-6**, PACAP-27 **139087-65-3 141140-05-8**
178312-83-9 178312-84-0
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(VIP and helodermin and PACAP analogs discriminate between rat and human VIP1 and VIP2 receptors)

REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 11 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:493732 HCAPLUS
DOCUMENT NUMBER: 129:131238
TITLE: Screening method for agents for treatment of eye disorders
INVENTOR(S): Trier, Klaus
PATENT ASSIGNEE(S): Aps, Klaus Trier, Den.; Trier, Klaus
SOURCE: PCT Int. Appl., 100 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9830900	A2	19980716	WO 1998-DK1	19980105
WO 9830900	A3	19981210		

W: AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, CZ, DE, DE, DK, DK, EE, EE, ES, FI, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

AU 9853121	A1	19980803	AU 1998-53121		19980105
US 6710051	B1	20040323	US 1999-341169		19990706
US 2004013609	A1	20040122	US 2003-464750		20030619
PRIORITY APPLN. INFO.:			DK 1997-9	A	19970106
			DK 1997-823	A	19970707
			DK 1997-1383	A	19971201
			WO 1998-DK1	W	19980105
			US 1999-341169	A3	19990706

OTHER SOURCE(S): MARPAT 129:131238

AB A method is provided for identification of substances which are applicable for treatment or prevention of an insufficient longitudinal growth of the eye (hypermetropia) or for treatment or prevention of an excessive longitudinal growth of the eye (myopia); substances identified by the method for treating or preventing conditions related to the longitudinal growth of the eye; substances and mixts. of substances for the preparation of a pharmaceutical composition for the treatment or prevention of abnormal growth of the axial length of the eye. The identification involves measuring the effect of the substances on the retinal pigment epithelium of the eye, e.g. by detecting the metabolic effect of the substance on the retinal epithelium, the effect on the standing potential or the effect on the proteoglycans of the scleral tissue of the eye, by way of EOG examination, by way on the size of the so-called c-wave in ERG-recordings, or by the state of the Ca2+-channels or on the [3H]-ryanodine receptors of the retinal pigment epithelium.

IT **137061-48-4, Pituitary adenylate cyclase** activating **polypeptide 137061-48-4D, Pituitary adenylate cyclase** activating **polypeptide**, derivs.
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(screening method for agents for treatment of eye disorders)

L11 ANSWER 12 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:398410 HCAPLUS
DOCUMENT NUMBER: 129:64073
TITLE: Human G protein-coupled **pituitary adenylate cyclase** activating **polypeptide**-like receptor HCEGH45, cloning of its cDNA sequence, and its diagnostic and therapeutic uses
INVENTOR(S): Soppet, Daniel R.; Rosen, Craig A.; Ruben, Steven M.; Li, Yi
PATENT ASSIGNEE(S): Human Genome Sciences, Inc., USA; Soppet, Daniel R.; Rosen, Craig A.; Ruben, Steven M.; Li, Yi
SOURCE: PCT Int. Appl., 82 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

WO 9824900 A1 19980611 WO 1997-US20547 19971121
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG
AU 9876253 A1 19980629 AU 1998-76253 19971121
EP 941327 A1 19990915 EP 1997-949398 19971121
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI
JP 2001505433 T2 20010424 JP 1998-525590 19971121
PRIORITY APPLN. INFO.: US 1996-32186P P 19961202
WO 1997-US20547 W 19971121

AB The cDNA sequence and the corresponding deduced **amino acid** sequence of a G-protein receptor putatively identified as a **pituitary adenylate cyclase**-activating **polypeptide** (PACAP) receptor are provided. The cDNA was discovered in a cDNA library derived from human cerebellum tissue. Is is structurally related to the G protein-coupled receptor family. It contains an open reading frame encoding a protein of 884 **amino acid** residues. The protein exhibits the highest degree of homol. to rat PACAP-like receptor. Recombinant techniques for expression of the receptor are described, including (1) expression in COS-7 cells using the pcDNAI/Amp vector, (2) cloning and expression using the baculovirus expression system with the pA2 vector (a modification of the pVL941 vector) in Sf9 cells, and (3) expression via gene therapy with the pMV-7 vector based on the Moloney murine sarcoma virus backbone. Also disclosed are methods for utilizing such **polypeptides** for identifying antagonists and **agonists** to such **polypeptides**. Antagonists against such **polypeptides** may be used therapeutically to treat PACAP hypersecretory conditions and to create pharmacol. amnesia models, while the **agonists** may be employed to treat amnesia and Alzheimer's disease. Also disclosed are diagnostic methods for detecting a mutation in the PACAP receptor nucleic acid sequences and detecting a level of the soluble form of the receptors in a sample derived from a host.

IT **208883-11-8P**
RL: ARG (Analytical reagent use); BPN (Biosynthetic preparation); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**amino acid** sequence; human G protein-coupled **pituitary adenylate cyclase** activating **polypeptide**-like receptor HCEGH45, cloning of its cDNA sequence, and its diagnostic and therapeutic uses)

IT **208883-12-9P**
RL: ARG (Analytical reagent use); BPN (Biosynthetic preparation); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(nucleotide sequence; human G protein-coupled **pituitary adenylate cyclase** activating **polypeptide** -like receptor HCEGH45, cloning of its cDNA sequence, and its diagnostic and therapeutic uses)

IT **137061-48-4, Pituitary adenylate cyclase**-activating **polypeptide**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(receptor; human G protein-coupled **pituitary adenylate cyclase** activating **polypeptide** -like receptor HCEGH45, cloning of its cDNA sequence, and its diagnostic and therapeutic uses)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 13 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:323132 HCAPLUS
DOCUMENT NUMBER: 129:23447
TITLE: A method for treating tension-type headache
INVENTOR(S): Olesen, Jes; Bendtsen, Lars; Jensen, Rigmor; Madsen, Ulf
PATENT ASSIGNEE(S): Olesen, Jes, Den.; Bendtsen, Lars; Jensen, Rigmor; Madsen, Ulf
SOURCE: PCT Int. Appl., 142 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9819674	A2	19980514	WO 1997-DK502	19971104
WO 9819674	A3	19980716		
W: AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, CZ, DE, DE, DK, DK, EE, ES, FI, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9748632	A1	19980529	AU 1997-48632	19971104
AU 734490	B2	20010614		
EP 1011656	A2	20000628	EP 1997-911150	19971104
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
EP 1132082	A1	20010912	EP 2000-204625	19971104
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
US 6284794	B1	20010904	US 1999-304115	19990504
US 2002072543	A1	20020613	US 2001-941855	20010830
US 6649605	B2	20031118		

PRIORITY APPLN. INFO.:

DK 1996-1243	A	19961105
US 1996-30294P	P	19961105
EP 1997-911150	A3	19971104
WO 1997-DK502	W	19971104
US 1998-85413P	P	19980514
US 1999-304115	A3	19990504

AB Tension-type headache is treated by interacting with neuronal transmission in relation to pain in connection with headache in a way which prevents or decreases sensitization of second order nociceptive neurons. In particular, treatment is performed by administration of an effective amount of a substance which prevents or decreases central sensitization. Important examples of such substances are substances which interact with glutamate neurotransmission, such as glutamate receptor antagonists. Other examples are e.g. substances which interact with nitric oxide, such as nitric oxide synthase (NOS) inhibitors. According to a broader aspect of the invention, tension-type headache is treated by administration of substances which are effective in preventing or decreasing pain in connection with tension-type headache. An addnl. aspect of the invention relates to treatment of tension-type headache by administration of substances which substantially inhibit the activity of NOS. Evidence for central sensitization in chronic myofascial pain, as well as mechanisms of spontaneous tension-type headaches, are also described. Gabapentin and

dextromethorphan had a prophylactic effect on chronic tension-type headaches..

IT **137061-48-4**, PACAP
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(production and release and action; tension-type headache treatment)

L11 ANSWER 14 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:718088 HCAPLUS
DOCUMENT NUMBER: 128:10671
TITLE: Peptides having specific affinity to PACAP type 1 receptors
INVENTOR(S): Moro, Osamu; Wakita, Kawori; Hyochi, Manami; Lerner, Ethan A.; Tajima, Masahiro
PATENT ASSIGNEE(S): Shiseido Company, Ltd., Japan; The General Hospital Corp.
SOURCE: PCT Int. Appl., 41 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9740388	A1	19971030	WO 1997-JP1394	19970423
W: JP				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 6017533	A	20000125	US 1996-637437	19960425
EP 900383	A1	19990310	EP 1997-919648	19970423
EP 900383	B1	20030326		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2000513808	T2	20001017	JP 1997-537926	19970423
AT 235687	E	20030415	AT 1997-919648	19970423

PRIORITY APPLN. INFO.: US 1996-637437 A 19960425
WO 1997-JP1394 W 19970423

AB This specification relates to use of peptides having a specific affinity to subtype 1 of PACAP (**pituitary adenylate cyclase** activating **polypeptide**) receptors, particularly MAX (67 **amino acids**), NSP (61 **amino acids**) and M 65 (46 **amino acids**). MAX and NSP act as **agonists** to PACAP type 1 receptors, and M 65 acts as an antagonist to PACAP type 1 receptors. These test reagents can be used to distinguish PACAP type 1 receptors in tissues or cells derived from mammals. receptors predicted to exist.

IT **124123-15-5**, Human PACAP-38 **127317-03-7**, Human PACAP-27
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(PACAP type 1 receptor identification with peptides having specific affinity therefor)

IT **137061-48-4**, PACAP
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(PACAP type 1 receptor identification with peptides having specific affinity therefor)

L11 ANSWER 15 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:97257 HCAPLUS
DOCUMENT NUMBER: 126:100279
TITLE: Human G protein-coupled **pituitary adenylate cyclase** activating

polypeptide-like receptor HCEGH45, cloning of its cDNA sequence, and its diagnostic and therapeutic uses

INVENTOR(S): Soppet, Daniel R.; Li, Yi; Rosen, Craig A.; Ruben, Steven M.

PATENT ASSIGNEE(S): Human Genome Sciences, Inc., USA; Soppet, Daniel R.; Li, Yi; Rosen, Craig A.; Ruben, Steven M.

SOURCE: PCT Int. Appl., 65 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9639439	A1	19961212	WO 1995-US7188	19950606
W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, US, UZ, VN				
RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
CA 2221637	AA	19961212	CA 1995-2221637	19950606
AU 9526634	A1	19961224	AU 1995-26634	19950606
EP 835264	A1	19980415	EP 1995-921615	19950606
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE				

PRIORITY APPLN. INFO.: WO 1995-US7188 19950606

AB The cDNA sequence and the corresponding deduced **amino acid** sequence of a G-protein receptor putatively identified as a **pituitary adenylate cyclase**-activating **polypeptide** (PACAP) receptor are provided. The cDNA was discovered in a cDNA library derived from human cerebellum tissue. Is is structurally related to the G protein-coupled receptor family. It contains an open reading frame encoding a protein of 874 **amino acid** residues. The protein exhibits the highest degree of homol. to rat PACAP-like receptor with 22.910% identity and 48.607% similarity. Recombinant techniques for expression of the receptor are described, including (1) expression in COS-7 cells using the pcDNAI/Amp vector, (2) cloning and expression using the baculovirus expression system with the pA2 vector (a modification of the pVL941 vector) in Sf9 cells, and (3) expression via gene therapy with the pMV-7 vector based on the Moloney murine sarcoma virus backbone. Also disclosed are methods for utilizing such **polypeptides** for identifying antagonists and **agonists** to such **polypeptides**. Antagonists against such **polypeptides** may be used therapeutically to treat PACAP hypersecretory conditions and to create pharmacol. amnesia models, while the **agonists** may be employed to treat amnesia and Alzheimer's disease. Also disclosed are diagnostic methods for detecting a mutation in the PACAP receptor nucleic acid sequences and detecting a level of the soluble form of the receptors in a sample derived from a host.

IT **185969-91-9P**
RL: ARG (Analytical reagent use); BPN (Biosynthetic preparation); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**amino acid** sequence; human G protein-coupled **pituitary adenylate cyclase** activating **polypeptide**-like receptor HCEGH45, cloning of its cDNA sequence, and its diagnostic and therapeutic uses)

IT **185969-90-8P**
RL: ARG (Analytical reagent use); BPN (Biosynthetic preparation); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)

(nucleotide sequence; human G protein-coupled **pituitary adenylate cyclase** activating **polypeptide** -like receptor HCEGH45, cloning of its cDNA sequence, and its diagnostic and therapeutic uses)

IT **137061-48-4**, **Pituitary adenylate cyclase**-activating **polypeptide**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(receptor; human G protein-coupled **pituitary adenylate cyclase** activating **polypeptide** -like receptor HCEGH45, cloning of its cDNA sequence, and its diagnostic and therapeutic uses)

L11 ANSWER 16 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:556465 HCAPLUS
DOCUMENT NUMBER: 125:238833
TITLE: Alternative splicing in the N-terminal extracellular domain of the **pituitary adenylate cyclase**-activating **polypeptide** (PACAP) receptor modulates receptor selectivity and relative potencies of PACAP-27 and PACAP-38 in phospholipase C activation
AUTHOR(S): Pantaloni, Colette; Brabet, Philippe; Bilanges, Benoit; Dumuis, Aline; Houssami, Souheir; Spengler, Dietmar; Bockaert, Joel; Journot, Laurent
CORPORATE SOURCE: CNRS-UPR 9023, Centre CNRS-INSERM Pharmacologie-Endocrinologie, Montpellier, F-34094, Fr.
SOURCE: Journal of Biological Chemistry (1996), 271(36), 22146-22151
CODEN: JBCHA3; ISSN: 0021-9258
PUBLISHER: American Society for Biochemistry and Molecular Biology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB **Pituitary adenylate cyclase**-activating **polypeptide** (PACAP)-27 and PACAP-38 are neuropeptides of the vasoactive intestinal peptide/secretin/glucagon family. We previously described alternative splicing of the region encoding the third intracellular loop of the PACAP receptor generating six isoforms with differential signal transduction properties (D. Spengler, et al., 1993). In addition, we demonstrated that the potencies of the two forms of PACAP are similar for **adenylate cyclase** stimulation, whereas PACAP-38 is more potent than PACAP-27 in phospholipase C activation. In the present work, we document the existence of a new splice variant of the PACAP receptor that was characterized by a 21-**amino acid** deletion in the N-terminal extracellular domain. We demonstrate that this domain modulates receptor selectivity with respect to PACAP-27 and -38 binding and controls the relative potencies of the two **agonists** in phospholipase C stimulation.

IT **128606-20-2**, PACAP-38 **129069-75-6**, PACAP-27
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(PACAP receptor N-terminal extracellular domain alternative splicing modulates receptor selectivity and relative potencies of PACAP-27 and PACAP-38 in phospholipase C activation)

IT **137061-48-4**, PACAP
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(PACAP receptor N-terminal extracellular domain alternative splicing modulates receptor selectivity and relative potencies of PACAP-27 and PACAP-38 in phospholipase C activation)

L11 ANSWER 17 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:357657 HCAPLUS

DOCUMENT NUMBER: 125:49512
TITLE: C-Terminally shortened **pituitary adenylate cyclase**-activating peptides (PACAP) discriminate PACAP I, PACAP II-VIP1 and PACAP II-VIP2 recombinant receptors
AUTHOR(S): Gourlet, Philippe; Vandermeers, Andre; Vandermeers-Piret, Marie-Claire; Rathe, Jean; De Neef, Philippe; Robberecht, Patrick
CORPORATE SOURCE: Department of Biochemistry and Nutrition, School of Medicine, Universite Libre de Bruxelles, Bat. G/E, CP 611, 808 Route de Lennik, Brussels, B-1070, Belg.
SOURCE: Regulatory Peptides (1996), 62(2-3), 125-130
CODEN: REPPDY; ISSN: 0167-0115
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English

AB **Pituitary adenylate cyclase**-activating **polypeptide** (PACAP) analogs were tested for their ability to occupy the recombinant selective PACAP receptors (PACAP type I receptors) and the non-selective PACAP-VIP receptors (PACAP type II, VIP1 and PACAP type II, VIP2 receptors), stably transfected and expressed in Chinese hamster ovary cells. Their capacity to stimulate the **adenylate cyclase** activity was also measured. The synthetic analogs tested were peptides shortened at the C-terminus by the removal of 1-4 **amino acids** (PACAP-26 to PACAP-23). All the peptides discriminated the 3 receptor subtypes and had the highest affinity for the VIP1 receptors, and the lowest affinity for the VIP2 receptors; PACAP-25 having the highest ability to discriminate the VIP1 and VIP2 receptors. All the peptides tested were full **agonists** on the PACAP I and VIP1 receptors; PACAP-25 and -26 were partial **agonists** on VIP2 receptors and may be appropriate tools to establish the receptor subtype involved in a given cellular response.

IT **127317-03-7P**, Human PACAP-27
RL: BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process)
(C-Terminally shortened PACAP peptides discriminate PACAP I, PACAP II-VIP1 and PACAP II-VIP2 recombinant receptors)

IT **137061-48-4DP, Pituitary adenylate cyclase** activating **polypeptide**, C-terminally shortened peptides
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(discrimination of PACAP I, PACAP II-VIP and PACAP II-VIP recombinant receptors)

L11 ANSWER 18 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:276288 HCAPLUS
DOCUMENT NUMBER: 124:339262
TITLE: Contractile and coronary vascular effects of **pituitary adenylate cyclase** activating **polypeptide** in neonatal pig hearts
AUTHOR(S): Ascuitto, Robert J.; Ross-Ascuitto, Nancy T.; Waddell, Alice E.; Kadowitz, Phillip J.
CORPORATE SOURCE: School Medicine, Tulane University, New Orleans, LA, 70112, USA
SOURCE: Cardiovascular Research (1996), 31(Extra Issue), E153-E159
CODEN: CVREAU; ISSN: 0008-6363
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal

LANGUAGE: English

AB The purpose was to investigate the influence of the 38-**amino-acid** neuropeptide, **pituitary adenylate cyclase** activating **polypeptide** (PACAP38), on contractile function and coronary vascular tone in neonatal hearts. Isolated, paced (150 bpm), isovolumically-beating, piglet hearts (n = 19) underwent retrograde aortic perfusion at constant coronary flow (≈ 2.5 mL/min/gwet) with an erythrocyte-enriched (Hct 15-20%) solution (37°C). **Agonists** were injected into the aortic root of hearts, and the changes in +dP/dtmax and -dP/dtmax (reflecting contractility), and coronary perfusion pressure (reflecting vascular tone) were determined Responses to PAPCAP38 were compared to isoproterenol, and to the truncated peptide PACAP6-38. PACAP38 (0.1 and 0.5 nmol) increased +dP/dtmax from 1387.4 ± 134.6 to 1619.0 ± 118.7, and from 1296.2 ± 93.4 to 1872.2 ± 111.4 mmHg/s ($P < 0.05$); changed -dP/dtmax from - 1087.6 ± 107.5 to - 1206.6 ± 93.6, and from - 1025.0 ± 46.8 to - 1375.4 ± 80.9 mmHg/s ($P < 0.05$) and decreased coronary perfusion pressure from 61.8 ± 2.5 to 51.0 ± 3.8, and from 62.5 ± 1.0 to 45.3 ± 3.3 mmHg ($P < 0.05$), resp. In comparison, isoproterenol (0.1 nmol) increased +dP/dtmax from 1313.6 ± 62.8 to 1679.0 ± 74.4 ($P < 0.05$), and - dP/dtmax from - 1026.4 ± 54.1 to - 1222.6 ± 57.4 mmHg/s ($P < 0.05$). PACAP6-38 reduced PACAP38's coronary vasodilatory, but not its contractile, effect. When compared to our previous studies of the the 27-**amino-acid** neuropeptide PACAP27, PACAP38 had less potent contractile, but similar vasodilatory effects. In conclusion, PACAP38 enhanced contractility and produced coronary vasodilation in piglet hearts, which may make PACAP38 a promising cardiotonic agent for the treatment of neonates with heart failure.

IT **128606-20-2**, Pacap38
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(contractile and coronary vascular effects of **pituitary adenylate cyclase** activating **polypeptide** in neonatal pig hearts)

L11 ANSWER 19 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:712784 HCAPLUS
DOCUMENT NUMBER: 123:103288
TITLE: **Pituitary adenylate cyclase**-activating **polypeptide** type I receptors mediate cyclic AMP-dependent enhancement of neuronal acetylcholine sensitivity
AUTHOR(S): Margiotta, Joseph F.; Pardi, Desiree
CORPORATE SOURCE: Dep. Physiology Biophys. Fishberg Res. Cent. Neurobiol., Mount Sinai Sch. Med., New York, NY, 10029, USA
SOURCE: Molecular Pharmacology (1995), 48(1), 63-71
CODEN: MOPMA3; ISSN: 0026-895X
PUBLISHER: Williams & Wilkins
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Nicotinic acetylcholine (ACh) receptors (AChRs) on ciliary ganglion neurons are pos. regulated by elevated cAMP levels. Vasoactive intestinal peptide (VIP) can act as a first messenger in the regulation, because application of 1 μM VIP rapidly increases both neuronal cAMP levels and ACh sensitivity. The authors now report that high affinity receptors for a close VIP relative, **pituitary adenylate cyclase**-activating **polypeptide** (PACAP), are present on ciliary ganglion neurons and mediate the cAMP-dependent modulation of AChRs. Consistent with the presence of PACAP type I receptors, binding studies revealed sites on the neurons having ≈1000-fold higher affinity for the 38- and 27-**amino acid** forms of PACAP than for VIP, and cAMP RIAs demonstrated that PACAP38 and PACAP27 are

≈600-fold more potent **agonists** for mobilizing neuronal cAMP than is VIP. In accord with their higher affinity and potency, PACAP38 and -27 (both at 10 nM) increased neuronal ACh sensitivity by ≈50% within 10 min, whereas VIP at the same low concentration was ineffective. The increased ACh sensitivity induced by 10 nm PACAP38 or PACAP27 or 1 μM VIP depends on coincident increases in cAMP levels, because treatment of neurons with **adenylate cyclase** inhibitors blocked both effects. The findings demonstrate the presence of functional PACAP type I receptors on ciliary ganglion neurons that preferentially recognize PACAP38 and -27 over VIP and act via **adenylate cyclase** to initiate cAMP-dependent enhancement of AChR function. Finally, the authors detected PACAP38-like material in ciliary ganglia, suggesting a role for the peptide in modulating neuronal AChRs in vivo.

IT **128606-20-2**, PACAP-38 **129069-75-6**, PACAP27
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(PACAP type I receptor mediation of cAMP-dependent enhancement of neuronal acetylcholine sensitivity)

L11 ANSWER 20 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1992:645697 HCAPLUS
DOCUMENT NUMBER: 117:245697
TITLE: Antagonistic properties are shifted back to agonistic properties by further N-terminal shortening of **pituitary adenylate-cyclase**-activating peptides in human neuroblastoma NB-OK-1 cell membranes
AUTHOR(S): Vandermeers, Andre; Vandenborre, Stephane; Hou, Xue; De Neef, Philippe; Robberecht, Patrick; Vandermeers-Piret, Marie Claire; Christophe, Jean
CORPORATE SOURCE: Med. Sch., Univ. Libre Bruxelles, Belg.
SOURCE: European Journal of Biochemistry (1992), 208(3), 815-19
CODEN: EJBCAI; ISSN: 0014-2956
DOCUMENT TYPE: Journal
LANGUAGE: English

AB N-terminally shortened analogs of the 27-**amino-acid** and 38-**amino-acid** forms of the **pituitary-adenylate-cyclase**-activating neuropeptide, PACAP(1-27) and PACAP(1-38), were synthesized by a solid-phase method. Systematic deletion of the first 13 **amino acids** of both PACAP was tested by evaluating their ability to occupy the specific and selective PACAP receptor of human neuroblastoma NB-OK-1 cell membranes and to stimulate **adenylate cyclase** or, when inactive per se, to inhibit PACAP-stimulated **adenylate cyclase** activity. For each peptide, the Kact (concentration required for half-maximal **adenylate cyclase** activation) or Ki [concentration required to shift the dose/response curve of PACAP(1-27) 2-fold to the right] was in good agreement with the corresponding IC50 [concentration inhibiting 50% of 125I-[AcHis1]PACAP(1-27) binding to membranes], suggesting interaction with the same homogeneous class of **adenylate cyclase**-coupled receptors. The deletion of the two first **amino acids** (His1 and Ser2) decreased the affinity for receptors and suppressed the capacity to activate **adenylate cyclase**. The shorter fragments 3-27 and 3-38, 4-27 and 4-38, 5-27 and 5-38, 6-27 and 6-38, 7-27 and 7-38, 8-27 and 8-38, and 9-27 and 9-38 were all competitive antagonists of PACAP(1-27)-stimulated activity with the N-terminally shortened PACAP(1-38) derivs. being 4-30-fold more potent than the equivalent PACAP(1-27) derivs. In this group PACAP(6-38) was the most potent antagonist (Ki 1.5 nM). Surprisingly, the N-terminally shorter fragments 10-27 and 10-38, 11-27 and 11-38, 12-27 and 12-38, 13-27 and 13-38, and 14-27 and 14-38 were again able to stimulate

adenylate cyclase, the smallest fragments, PACAP (14-27) and PACAP(14-38), being the most potent and efficient (Kact 2 μM and 0.1 μM, resp.). In this group of **agonists**, PACAP(1-38) derivs. deleted at the N-terminus were also more potent than the equivalent PACAP(1-27) derivs.

IT **124123-15-5P 127317-03-7DP**, fragments
127317-03-7P 128606-20-2DP, Peptide PACAP 38, fragments
136134-68-4P 136680-99-4P 136681-00-0P
143748-18-9P 143748-25-8P 143792-66-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of and **adenylate cyclase** response to and receptor binding of)

L11 ANSWER 21 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1992:585021 HCAPLUS
DOCUMENT NUMBER: 117:185021
TITLE: Structural requirements for the occupancy of **pituitary adenylate-cyclase**-activating-peptide (PACAP) receptors and **adenylate cyclase** activation in human neuroblastoma NB-OK-1 cell membranes. Discovery of PACAP(6-38) as a potent antagonist
AUTHOR(S): Robberecht, Patrick; Gourlet, Philippe; De Neef, Philippe; Woussen-Colle, Marie Claire; Vandermeers-Piret, Marie Claire; Vandermeers, Andre; Christophe, Jean
CORPORATE SOURCE: Med. Sch., Univ. Libre Bruxelles, Brussels, B-1070, Belg.
SOURCE: European Journal of Biochemistry (1992), 207(1), 239-46
CODEN: EJBCAI; ISSN: 0014-2956
DOCUMENT TYPE: Journal
LANGUAGE: English

AB In these structure activity studies, the 46 analogs of the 27-**amino-acid** form of the **pituitary-adenylate-cyclase**-activating peptide, PACAP(1-27), and the 38-**amino-acid** form, PACAP(1-38), were either monosubstituted or bisubstituted at positions 1-3, 20, and 21 or N-terminally shortened. All analogs were compared on human neuroblastoma NB-OK-1 cell membranes for their ability to occupy 125I-[AcHis1]PACAP(1-27)-labeled receptors (AcHis, Nα-acetylhistidine) and to activate **adenylate cyclase** (in terms of potency and intrinsic activity). The monophasic slope of dose/effect curves on both parameters suggested interaction with 1 class of PACAP receptor. Residues 28-38 in the C-terminally extended peptide, PACAP(1-38), played a favorable role in recognition, in that receptors coupled to **adenylate cyclase** were, in general, more sensitive to PACAP(1-38) analogs than to the corresponding PACAP(1-27) analogs. At variance with PACAP(6-27), PACAP(6-38) was well recognized and acted as a potent competitive antagonist (Ki 1.5 nM). Residues 1-3 were all important in enzyme activation: modification of the β-turn potential gave full **agonists** (the L-Ala2 and D-Ala2 derivs.) or partial **agonists** (L-Phe2 and D-Phe2; L-Arg2 and D-Arg2; Glu3 and Asn3). Finally, a proper α-helix was also important: the combined substitution of Lys21/Lys22 by Gly21/Gly22 decreased the binding affinity sharply.

IT **124123-15-5 127317-03-7 128606-20-2D**, Peptide PACAP 38, analogs **129069-75-6D**, Peptide PACAP 27, analogs
136134-68-4 136680-99-4 136681-00-0
143748-18-9 143748-25-8
RL: BIOL (Biological study)
(**pituitary adenylate cyclase**-activating peptide receptor binding of and **adenylate cyclase**

activation by, in human neuroblastoma cell, mol. structure in relation to)

L11 ANSWER 22 OF 22 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1991:199819 HCAPLUS
DOCUMENT NUMBER: 114:199819
TITLE: Structural requirements for the binding of the **pituitary adenylate-cyclase** -activating peptide to receptors and **adenylate -cyclase** activation in pancreatic and neuronal membranes
AUTHOR(S): Gourlet, Philippe; Woussen-Colle, Marie Claire; Robberecht, Patrick; De Neef, Philippe; Cauvin, Annick; Vandermeers-Piret, Marie Claire; Vandermeers, Andre; Christophe, Jean
CORPORATE SOURCE: Med. Sch., Univ. Libre Bruxelles, Brussels, B-1000, Belg.
SOURCE: European Journal of Biochemistry (1991), 195(2), 535-41
CODEN: EJBCAI; ISSN: 0014-2956
DOCUMENT TYPE: Journal
LANGUAGE: English
AB PACAP (**pituitary adenylate cyclase** -activating peptide)-binding receptors were investigated in membranes from rat pancreatic acinar cell line, AR 4-2J, rat hippocampus, and the human neuroblastoma cell line NB-OK by 125I-labeled PACAP(1-27) (**amino acid** residues 1-27 of N-terminal amidated PACAP) binding and **adenylate** activation. The relative binding of 125I-labeled PACAP(1-27) to the receptor and the ability to activate **adenylate cyclase** were: PACAP ≥ PACAP(1-27) > PACAP(2-38) > PACAP(1-9)-VIP(10-28)(PACAP-VIP) > PACAP(2-27) > [Ser9, Tyr13]VIP ≥ [Ser9]VIP ≥ VIP(1-23)-PACAP(24-27)(VIP-PACAP) > VIP. The N-terminal moiety of PACAP(1-27) was more important than the 3 **amino acids** at the C-terminus for 125I-labeled PACAP(1-27)-binding site recognition. For rat pancreatic 125I-labeled VIP-binding sites tested with 125I-labeled VIP, the order of binding affinity was: PACAP = PACAP(1-27) ≥ VIP = [SER9]VIP = [Tyr13]VIP = [Ser9, Tyr13]VIP ≥ PACAP-VIP ≥ VIP-PACAP > PACAP(2-38) = PACAP(2-27). Pancreatic 125I-labeled VIP-binding sites, when compared with 125I-labeled PACAP(1-27)-binding sites, showed little specificity and only weak coupling, so that PACAP and VIP-PACAP acted only as partial VIP **agonists** on **adenylate cyclase**.
IT **124123-15-5 129069-75-6**, Peptide PACAP 27
143748-25-8
RL: BIOL (Biological study)
(**adenylate cyclase** activation by and receptor binding of)

=> sel hit rn
E1 THROUGH E21 ASSIGNED

=> file reg
FILE 'REGISTRY' ENTERED AT 10:30:11 ON 29 APR 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 27 APR 2004 HIGHEST RN 677274-15-6
DICTIONARY FILE UPDATES: 27 APR 2004 HIGHEST RN 677274-15-6

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

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Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

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L12  ANSWER 1 OF 21  REGISTRY  COPYRIGHT 2004 ACS on STN
RN   220454-94-4  REGISTRY
CN   2-884-G protein-coupled receptor HCEGH45 (human 884-amino acid isoform
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OTHER NAMES:
CN   2-884-PACAP-like receptor HCEGH45 (human 884-amino acid isoform precursor
     reduced)
CN   2-884-Pituitary adenylate cyclase-activating polypeptide-like receptor
     HCEGH45 (human 884-amino acid isoform precursor reduced)
FS   PROTEIN SEQUENCE
MF   Unspecified
CI   MAN
SR   CA
LC   STN Files:   CA, CAPLUS, USPATFULL

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REFERENCE   1:  130:164020

L12  ANSWER 2 OF 21  REGISTRY  COPYRIGHT 2004 ACS on STN
RN   220454-62-6  REGISTRY
CN   DNA (human G protein-coupled receptor HCEGH45 884-amino acid
     isoform-specifying cDNA) (9CI)  (CA INDEX NAME)
OTHER NAMES:
CN   DNA (human PACAP-like receptor HCEGH45 884-amino acid isoform-specifying
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CN   DNA (human pituitary adenylate cyclase-activating polypeptide-like
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FS   NUCLEIC ACID SEQUENCE
MF   Unspecified
CI   MAN
SR   CA
LC   STN Files:   CA, CAPLUS, USPATFULL

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REFERENCE   1:  130:164020

L12  ANSWER 3 OF 21  REGISTRY  COPYRIGHT 2004 ACS on STN
RN   208883-12-9  REGISTRY
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OTHER NAMES:
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     plus flanks)
CN   DNA (human PACAP-like receptor HCEGH45 884-amino acid isoform cDNA plus
     flanks)
CN   DNA (human pituitary adenylate cyclase-activating polypeptide-like
     receptor HCEGH45 884-amino acid isoform cDNA plus flanks)
FS   NUCLEIC ACID SEQUENCE
MF   Unspecified
CI   MAN
SR   CA
LC   STN Files:   CA, CAPLUS, USPATFULL
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RELATED SEQUENCES AVAILABLE WITH SEQLINK

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REFERENCE 1: 130:164020

REFERENCE 2: 129:64073

L12 ANSWER 4 OF 21 REGISTRY COPYRIGHT 2004 ACS on STN
RN **208883-11-8** REGISTRY
CN Pituitary adenylate cyclase-activating polypeptide receptor HCEGH45 (human precursor reduced) (9CI) (CA INDEX NAME)
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CN G protein-coupled receptor HCEGH45 (human 884-amino acid isoform precursor reduced)
CN PACAP-like receptor HCEGH45 (human 884-amino acid isoform precursor reduced)
CN Pituitary adenylate cyclase-activating polypeptide-like receptor HCEGH45 (human 884-amino acid isoform precursor reduced)
FS PROTEIN SEQUENCE
MF Unspecified
CI MAN
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

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REFERENCE 1: 130:164020

REFERENCE 2: 129:64073

L12 ANSWER 5 OF 21 REGISTRY COPYRIGHT 2004 ACS on STN
RN **185969-91-9** REGISTRY
CN Pituitary adenylate cyclase-activating polypeptide receptor HCEGH45 (human 874-amino acid isoform precursor reduced) (9CI) (CA INDEX NAME)
OTHER NAMES:
CN G protein-coupled receptor HCEGH45 (human 874-amino acid isoform precursor reduced)
CN PACAP-like receptor HCEGH45 (human 874-amino acid isoform precursor reduced)
FS PROTEIN SEQUENCE
MF Unspecified
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SR CA
LC STN Files: CA, CAPLUS, USPATFULL

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REFERENCE 1: 130:164020

REFERENCE 2: 126:100279

L12 ANSWER 6 OF 21 REGISTRY COPYRIGHT 2004 ACS on STN
RN **185969-90-8** REGISTRY

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OTHER NAMES:
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FS NUCLEIC ACID SEQUENCE
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SR CA
LC STN Files: CA, CAPLUS, USPATFULL

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REFERENCE 2: 126:100279

L12 ANSWER 7 OF 21 REGISTRY COPYRIGHT 2004 ACS on STN
RN **178312-84-0** REGISTRY
CN 1-25-Pituitary adenylate cyclase-activating peptide-27 (human) (9CI) (CA INDEX NAME)
OTHER NAMES:
CN 1-25-PACAP
CN 18: PN: WO0179539 SEQID: 9 claimed protein
FS PROTEIN SEQUENCE; STEREOSEARCH
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LC STN Files: CA, CAPLUS, TOXCENTER

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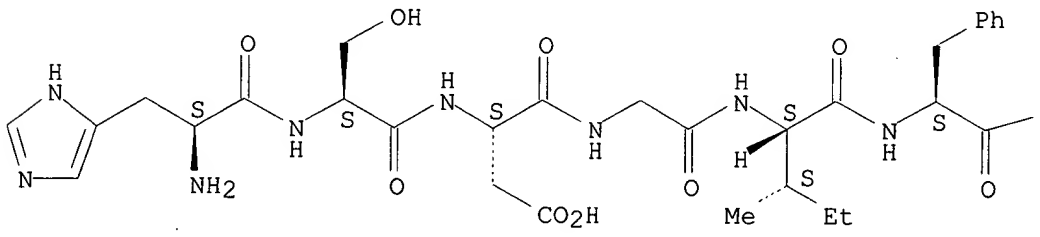
Absolute stereochemistry.



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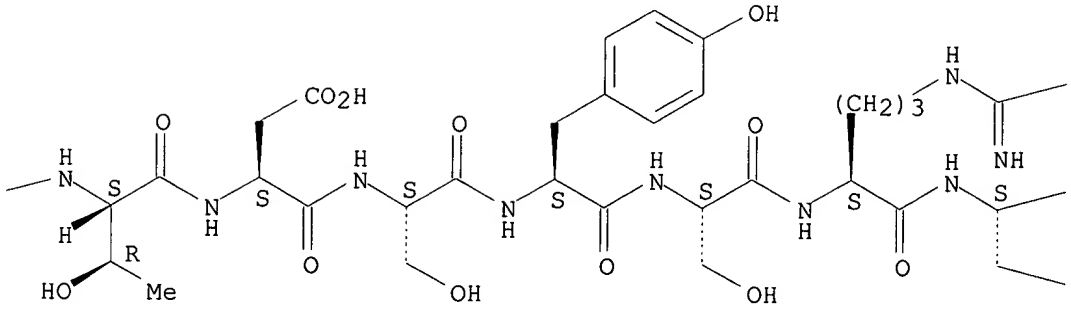

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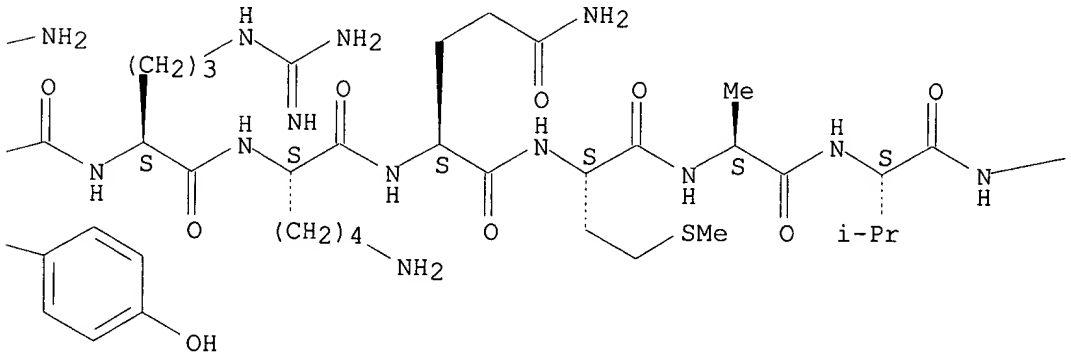

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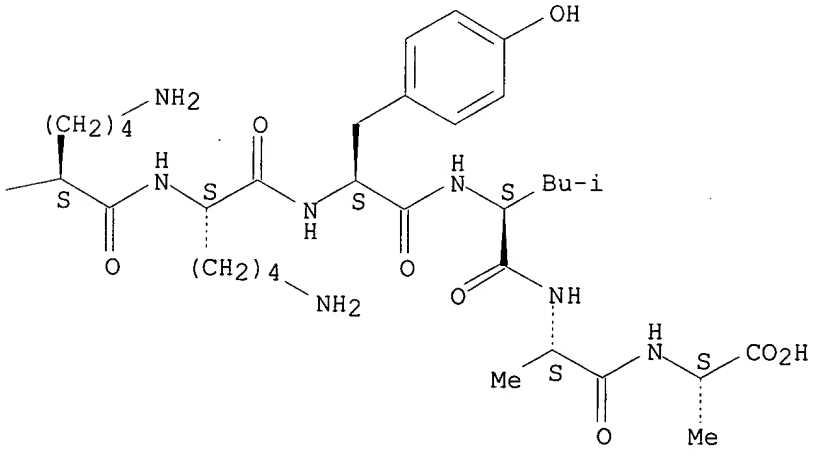

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REFERENCE 3: . 130:277067

REFERENCE 4: 127:273083

REFERENCE 5: 125:50100

L12 ANSWER 8 OF 21 REGISTRY COPYRIGHT 2004 ACS on STN
RN **178312-83-9** REGISTRY
CN 1-24-Pituitary adenylate cyclase-activating peptide-27 (human) (9CI) (CA INDEX NAME)
OTHER NAMES:
CN 1-24-PACAP
CN 19: PN: WO0179539 SEQID: 10 claimed protein
FS PROTEIN SEQUENCE; STEREOSEARCH
MF C128 H198 N36 O37 S
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

RELATED SEQUENCES AVAILABLE WITH SEQLINK

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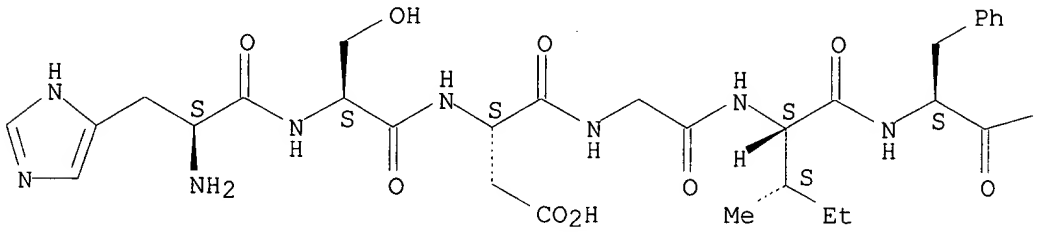
PAGE 1-A



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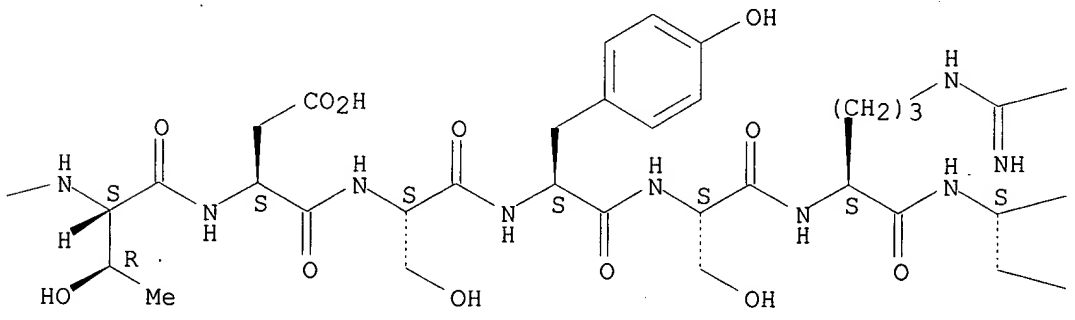

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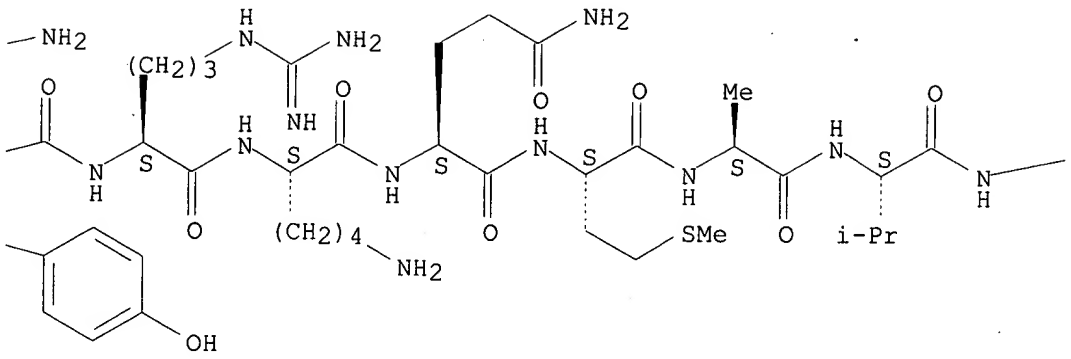

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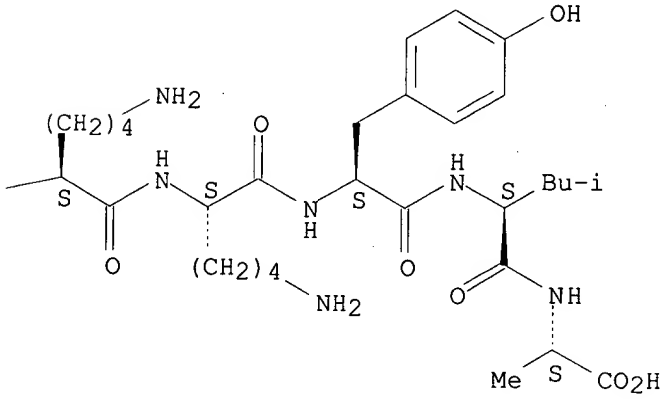

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REFERENCE 2: 135:340143

REFERENCE 3: 130:277067

REFERENCE 4: 125:50100

L12 ANSWER 9 OF 21 REGISTRY COPYRIGHT 2004 ACS on STN
RN **143792-66-9** REGISTRY
CN L-Lysinamide, L-α-aspartylglycyl-L-isoleucyl-L-phenylalanyl-L-threonyl-L-α-aspartyl-L-seryl-L-tyrosyl-L-seryl-L-arginyl-L-tyrosyl-L-arginyl-L-lysyl-L-glutaminyl-L-methionyl-L-alanyl-L-valyl-L-lysyl-L-lysyl-L-tyrosyl-L-leucyl-L-alanyl-L-alanyl-L-valyl-L-leucylglycyl-L-lysyl-L-arginyl-L-tyrosyl-L-lysyl-L-glutaminyl-L-arginyl-L-valyl-L-lysyl-L-asparaginyl- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN Human PACAP-(3-38)
FS PROTEIN SEQUENCE
MF C194 H319 N59 O50 S
CI MAN

SR CA
LC STN Files: CA, CAPLUS

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3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 126:70280

REFERENCE 2: 124:21928

REFERENCE 3: 117:245697

L12 ANSWER 10 OF 21 REGISTRY COPYRIGHT 2004 ACS on STN
RN **143748-25-8** REGISTRY
CN L-Lysinamide, L-seryl-L-α-aspartylglycyl-L-isoleucyl-L-phenylalanyl-L-threonyl-L-α-aspartyl-L-seryl-L-tyrosyl-L-seryl-L-arginyl-L-tyrosyl-L-arginyl-L-lysyl-L-glutaminyl-L-methionyl-L-alanyl-L-valyl-L-lysyl-L-lysyl-L-tyrosyl-L-leucyl-L-alanyl-L-alanyl-L-valyl-L-leucylglycyl-L-lysyl-L-arginyl-L-tyrosyl-L-lysyl-L-glutaminyl-L-arginyl-L-valyl-L-lysyl-L-asparaginyl- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN 2-38-Peptide PACAP 38 (sheep)
CN Human PACAP-(2-38)
FS PROTEIN SEQUENCE
DR 133403-18-6
MF C197 H324 N60 O52 S
CI MAN
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

RELATED SEQUENCES AVAILABLE WITH SEQLINK

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
*** USE 'SQD' OR 'SQIDE' FORMATS TO DISPLAY SEQUENCE ***
9 REFERENCES IN FILE CA (1907 TO DATE)
9 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 124:21928

REFERENCE 2: 121:50373

REFERENCE 3: 119:199989

REFERENCE 4: 119:152368

REFERENCE 5: 118:942

REFERENCE 6: 117:245697

REFERENCE 7: 117:185021

REFERENCE 8: 115:208496

REFERENCE 9: 114:199819

L12 ANSWER 11 OF 21 REGISTRY COPYRIGHT 2004 ACS on STN
RN **143748-18-9** REGISTRY
CN L-Lysinamide, L-phenylalanyl-L-threonyl-L-α-aspartyl-L-seryl-L-tyrosyl-L-seryl-L-arginyl-L-tyrosyl-L-arginyl-L-lysyl-L-glutaminyl-L-methionyl-L-alanyl-L-valyl-L-lysyl-L-lysyl-L-tyrosyl-L-leucyl-L-alanyl-L-alanyl-L-valyl-L-leucylglycyl-L-lysyl-L-arginyl-L-tyrosyl-L-lysyl-L-

glutaminyl-L-arginyl-L-valyl-L-lysyl-L-asparaginyl- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN Human PACAP(6-38)
CN Rat PACAP(6-38)
FS PROTEIN SEQUENCE
MF C182 H300 N56 O45 S
CI MAN
SR CA
LC STN Files: CA, CAPLUS, CHEMCATS, TOXCENTER

RELATED SEQUENCES AVAILABLE WITH SEQLINK

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
*** USE 'SQD' OR 'SQIDE' FORMATS TO DISPLAY SEQUENCE ***
29 REFERENCES IN FILE CA (1907 TO DATE)
29 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 140:211326

REFERENCE 2: 139:79343

REFERENCE 3: 138:382313

REFERENCE 4: 138:66789

REFERENCE 5: 138:19743

REFERENCE 6: 136:350813

REFERENCE 7: 134:290613

REFERENCE 8: 134:66422

REFERENCE 9: 133:99839

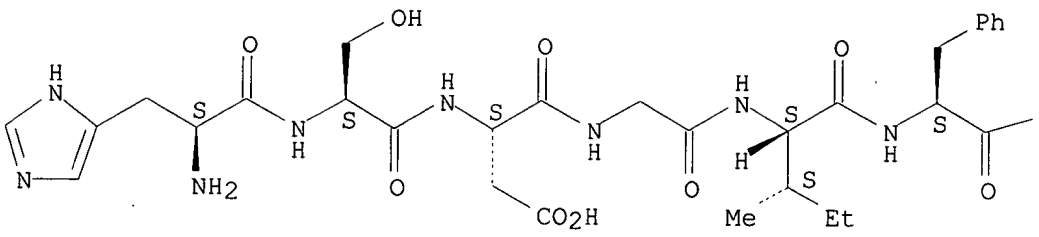
REFERENCE 10: 133:27488

L12 ANSWER 12 OF 21 REGISTRY COPYRIGHT 2004 ACS on STN
RN **141140-05-8** REGISTRY
CN L-Valine, L-histidyl-L-seryl-L-α-aspartylglycyl-L-isoleucyl-L-phenylalanyl-L-threonyl-L-α-aspartyl-L-seryl-L-tyrosyl-L-seryl-L-arginyl-L-tyrosyl-L-arginyl-L-lysyl-L-glutaminyl-L-methionyl-L-alanyl-L-valyl-L-lysyl-L-lysyl-L-tyrosyl-L-leucyl-L-alanyl-L-alanyl- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Vasoactive intestinal octacosapeptide (pig), 4-glycine-5-L-isoleucine-9-L-serine-11-L-serine-13-L-tyrosine-24-L-alanine-25-L-alanine-26-L-valine-27-de-L-leucine-28-de-L-aspartamide-
OTHER NAMES:
CN 1-26-PACAP
CN 17: PN: WO0179539 SEQID: 8 claimed protein
FS PROTEIN SEQUENCE; STEREOSEARCH
MF C136 H212 N38 O39 S
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL

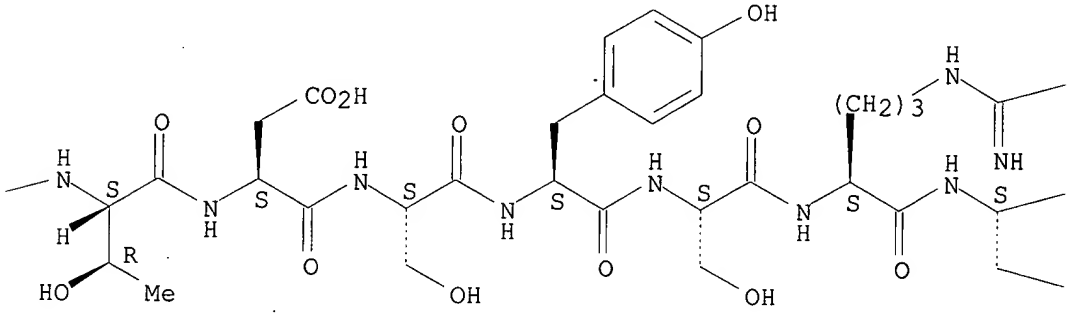
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



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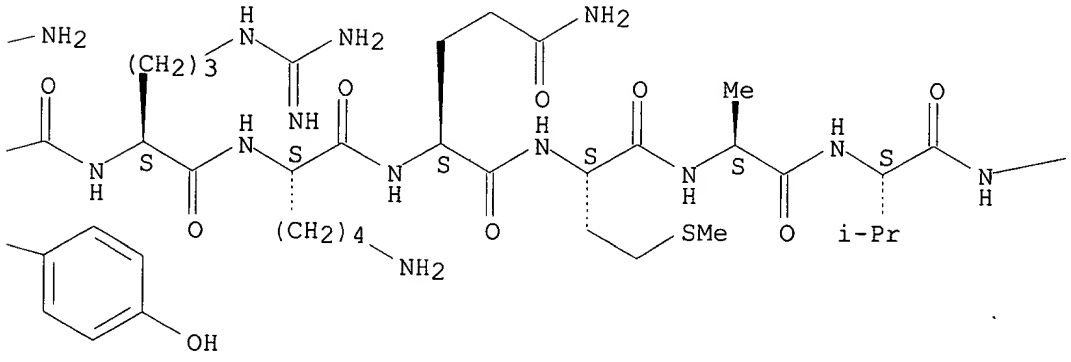
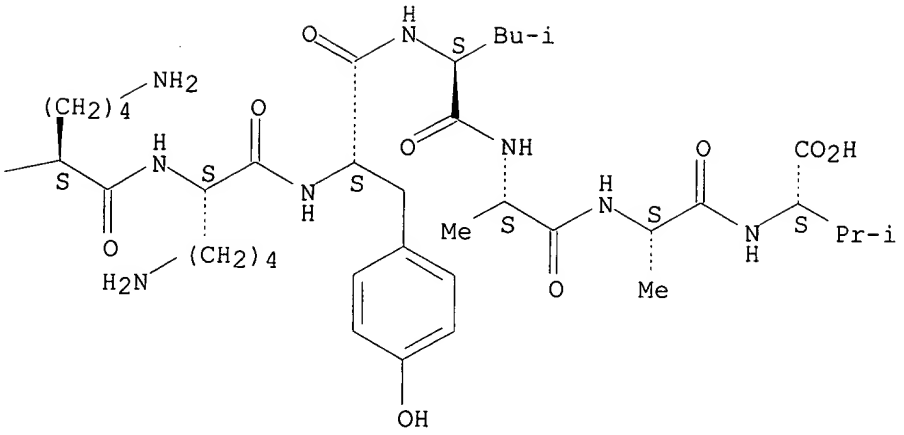




5 REFERENCES IN FILE CA (1907 TO DATE)
5 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 139:63349

REFERENCE 2: 135:340143

REFERENCE 3: 130:277067

REFERENCE 4: 125:50100

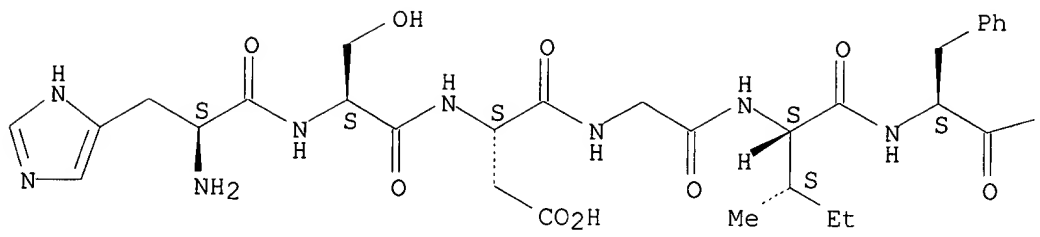
REFERENCE 5: 116:236173

L12 ANSWER 13 OF 21 REGISTRY COPYRIGHT 2004 ACS on STN
RN **139087-65-3** REGISTRY
CN L-Leucine, L-histidyl-L-seryl-L-α-aspartylglycyl-L-isoleucyl-L-phenylalanyl-L-threonyl-L-α-aspartyl-L-seryl-L-tyrosyl-L-seryl-L-arginyl-L-tyrosyl-L-arginyl-L-lysyl-L-glutaminyl-L-methionyl-L-alanyl-L-valyl-L-lysyl-L-lysyl-L-tyrosyl- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Vasoactive intestinal octacosapeptide (pig), 4-glycine-5-L-isoleucine-9-L-serine-11-L-serine-13-L-tyrosine-24-de-L-asparagine-25-de-L-serine-26-de-L-isoleucine-27-de-L-leucine-28-de-L-aspartamide-
OTHER NAMES:
CN 1-23-PACAP
CN 10: PN: WO03103702 SEQID: 10 claimed sequence
CN 14: PN: JP2001151799 SEQID: 16 claimed protein
CN 20: PN: WO0179539 SEQID: 11 claimed protein
CN 7: PN: WO03061680 PAGE: 27 claimed protein
FS PROTEIN SEQUENCE; STEREOSEARCH
MF C125 H193 N35 O36 S
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL

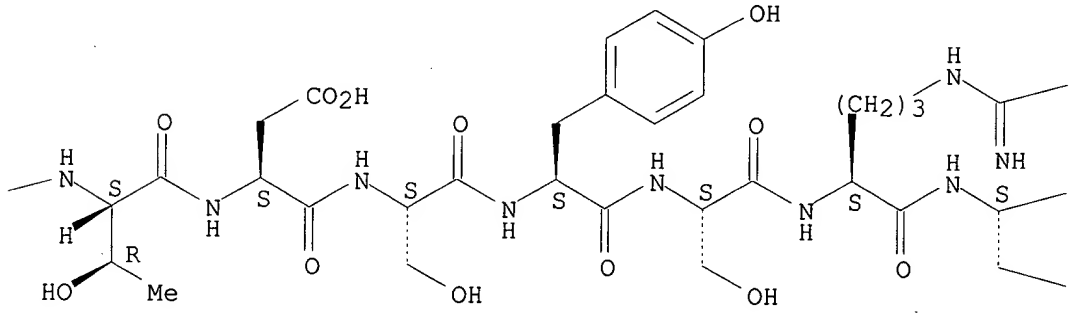
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

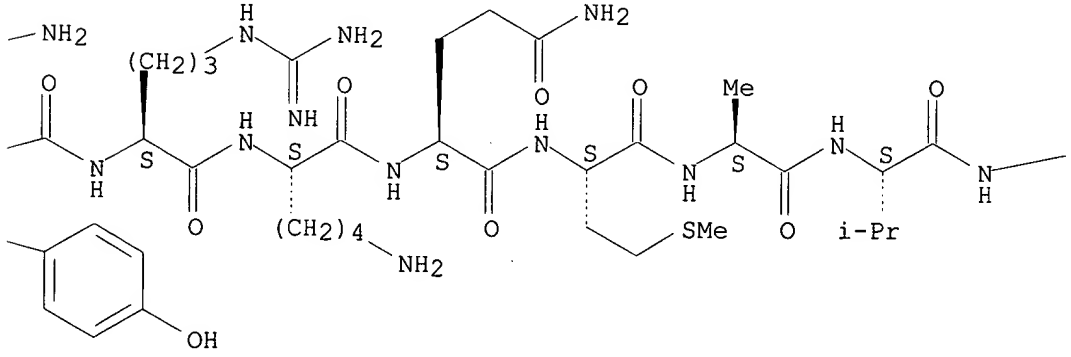
PAGE 1-A



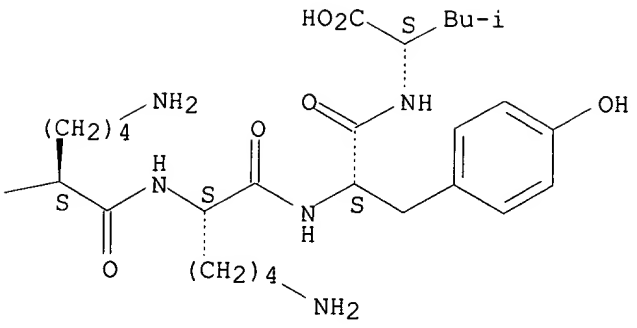
PAGE 1-B



PAGE 1-C



PAGE 1-D



13 REFERENCES IN FILE CA (1907 TO DATE)
13 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 140:35984

REFERENCE 2: 139:143960

REFERENCE 3: 139:63349

REFERENCE 4: 138:215337

REFERENCE 5: 137:16063

REFERENCE 6: 135:340143

REFERENCE 7: 135:29149

REFERENCE 8: 130:277067

REFERENCE 9: 125:50100

REFERENCE 10: 120:23730

L12 ANSWER 14 OF 21 REGISTRY COPYRIGHT 2004 ACS on STN
RN **137061-48-4** REGISTRY
CN Pituitary adenylate cyclase-activating peptide (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Peptide PACAP
OTHER NAMES:
CN PACAP
CN Pituitary adenylate cyclase-activating polypeptide
MF Unspecified
CI MAN
SR CA
LC STN Files: AGRICOLA, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CAPLUS, CHEMCATS, CIN, EMBASE, IMSDRUGNEWS, IMSRESEARCH, TOXCENTER, USPAT2, USPATFULL

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
1026 REFERENCES IN FILE CA (1907 TO DATE)
31 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1033 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 140:268317

REFERENCE 2: 140:259057

REFERENCE 3: 140:251809

REFERENCE 4: 140:251252

REFERENCE 5: 140:232687

REFERENCE 6: 140:230590

REFERENCE 7: 140:229726

REFERENCE 8: 140:212533

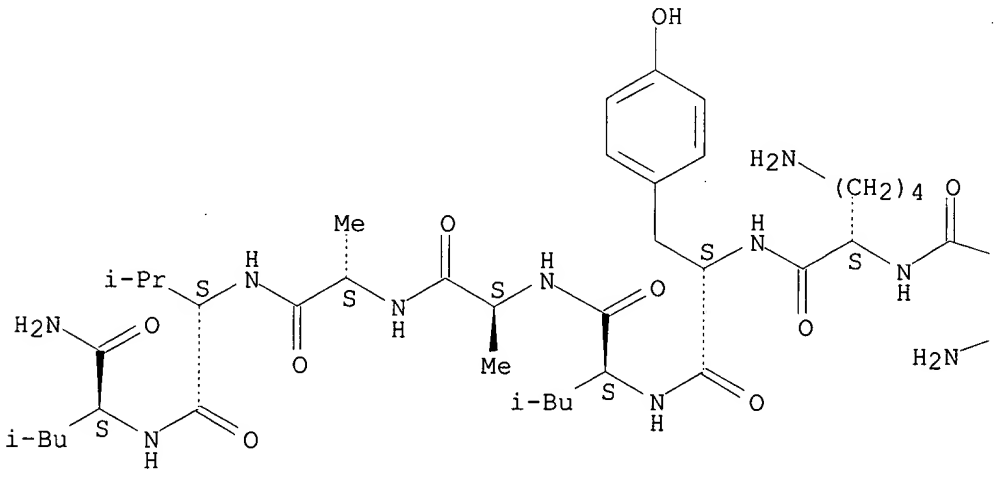
REFERENCE 9: 140:211094

REFERENCE 10: 140:210853

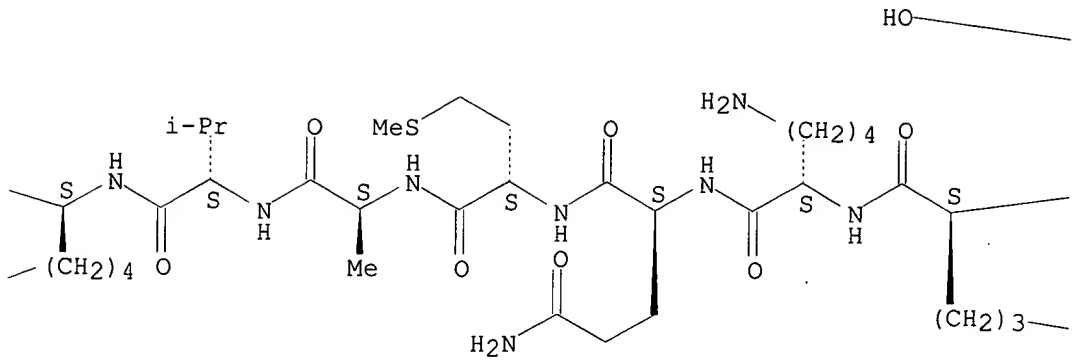
L12 ANSWER 15 OF 21 REGISTRY COPYRIGHT 2004 ACS on STN
RN **136681-00-0** REGISTRY
CN 3-27-Pituitary adenylate cyclase-activating peptide (human), 27-L-leucinamide- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Vasoactive intestinal octacosapeptide (pig), 1-de-L-histidine-2-de-L-serine-4-glycine-5-L-isoleucine-9-L-serine-11-L-serine-13-L-tyrosine-24-L-alanine-25-L-alanine-26-L-valine-27-L-leucinamide-28-de-L-aspartamide-
OTHER NAMES:
CN Human PACAP-(3-27)
FS PROTEIN SEQUENCE; STEREOSEARCH
MF C133 H212 N36 O36 S
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

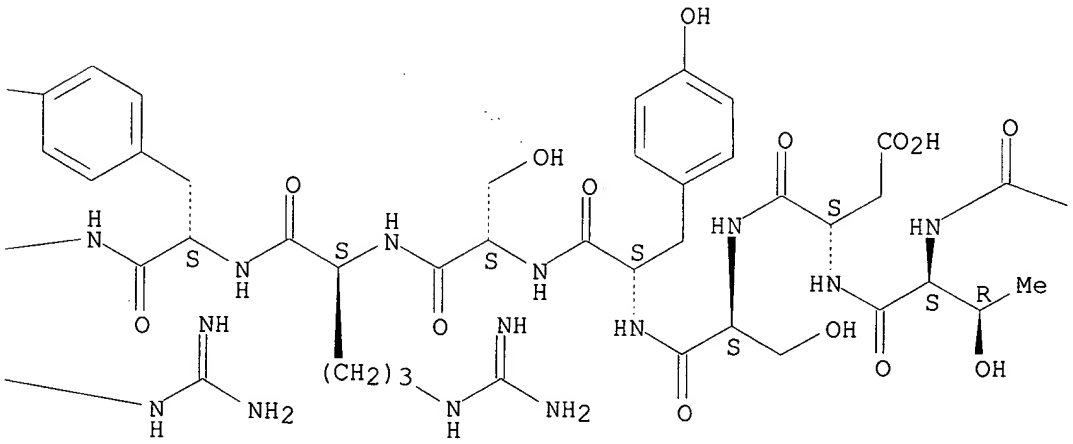
PAGE 1-A



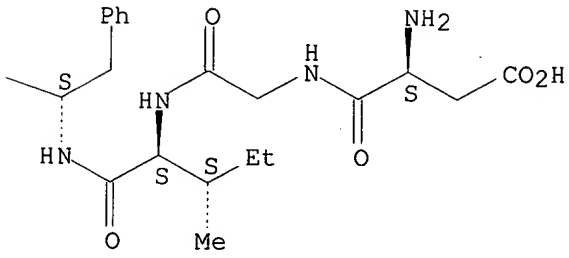
PAGE 1-B



PAGE 1-C



PAGE 1-D



6 REFERENCES IN FILE CA (1907 TO DATE)
6 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: . 126:70280

REFERENCE 2: 124:21928

REFERENCE 3: 118:942

REFERENCE 4: 117:245697

REFERENCE 5: 117:185021

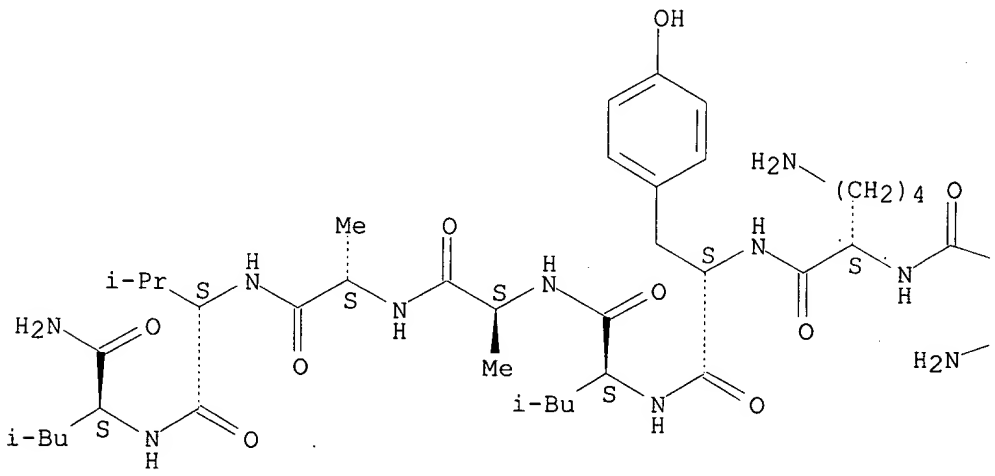
REFERENCE 6: 115:199554

L12 ANSWER 16 OF 21 REGISTRY COPYRIGHT 2004 ACS on STN
RN **136680-99-4** REGISTRY
CN 2-27-Pituitary adenylate cyclase-activating peptide (human), 27-L-leucinamide- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Vasoactive intestinal octacosapeptide (pig), 1-de-L-histidine-4-glycine-5-L-isoleucine-9-L-serine-11-L-serine-13-L-tyrosine-24-L-alanine-25-L-alanine-26-L-valine-27-L-leucinamide-28-de-L-aspartamide-
OTHER NAMES:
CN Human PACAP-(2-27)
FS PROTEIN SEQUENCE; STEREOSEARCH
MF C136 H217 N37 O38 S
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL

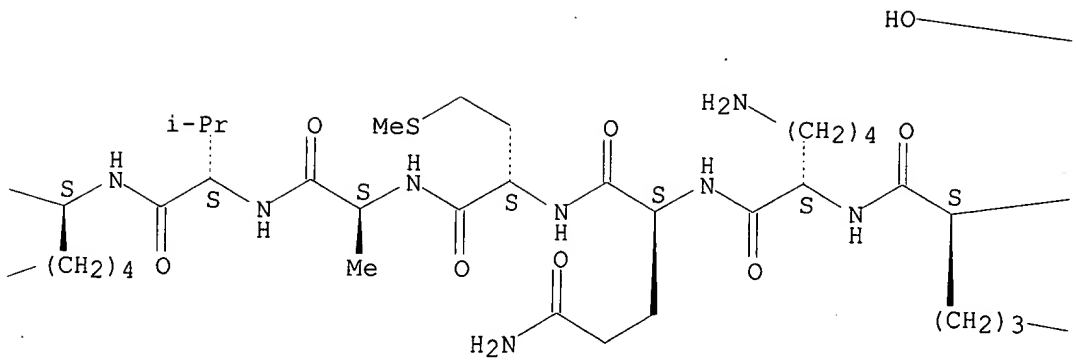
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

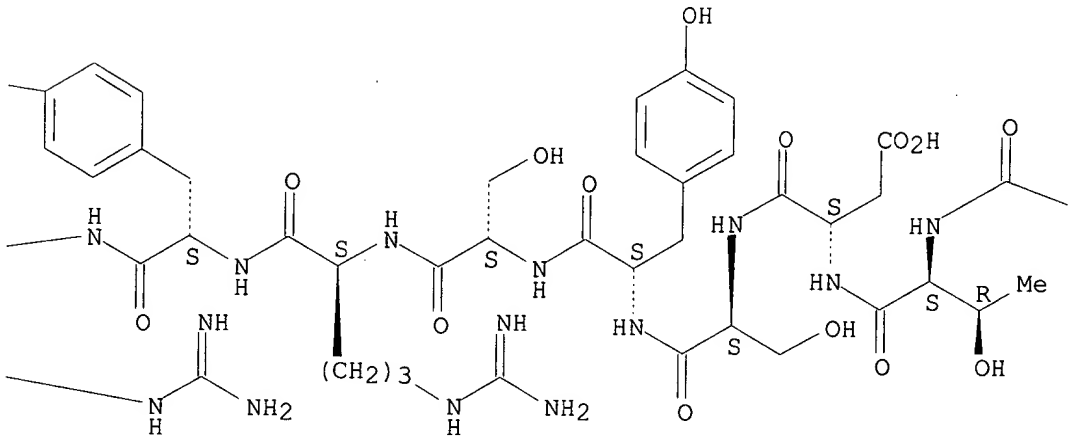
PAGE 1-A



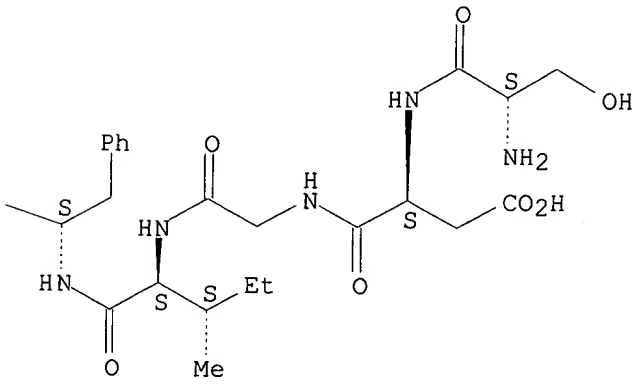
PAGE 1-B



PAGE 1-C



PAGE 1-D



11 REFERENCES IN FILE CA (1907 TO DATE)

11 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 129:211790

REFERENCE 2: 126:84907

REFERENCE 3: 126:70280

REFERENCE 4: 125:105137

REFERENCE 5: 124:21928

REFERENCE 6: 123:286609

REFERENCE 7: 123:112672

REFERENCE 8: 118:942

REFERENCE 9: 117:245697

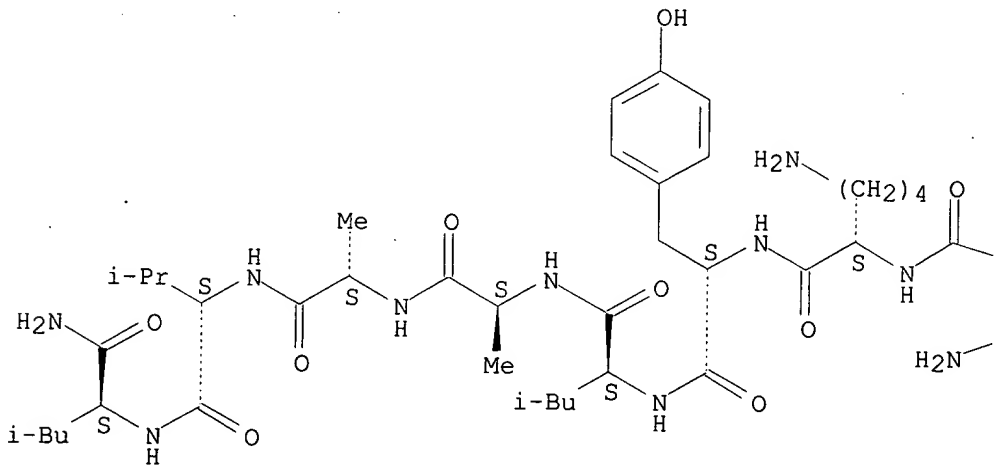
REFERENCE 10: 117:185021

L12 ANSWER 17 OF 21 REGISTRY COPYRIGHT 2004 ACS on STN
RN **136134-68-4** REGISTRY
CN 6-27-Pituitary adenylate cyclase-activating peptide (human), 27-L-leucinamide- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Vasoactive intestinal octacosapeptide (pig), 1-de-L-histidine-2-de-L-serine-3-de-L-aspartic acid-4-de-L-alanine-5-de-L-valine-9-L-serine-11-L-serine-13-L-tyrosine-24-L-alanine-25-L-alanine-26-L-valine-27-L-leucinamide-28-de-L-aspartamide-
OTHER NAMES:
CN Human PACAP(6-27)
FS PROTEIN SEQUENCE; STEREOSEARCH
MF C121 H193 N33 O31 S
SR CA
LC STN Files: CA, CAPLUS, CHEMCATS, TOXCENTER

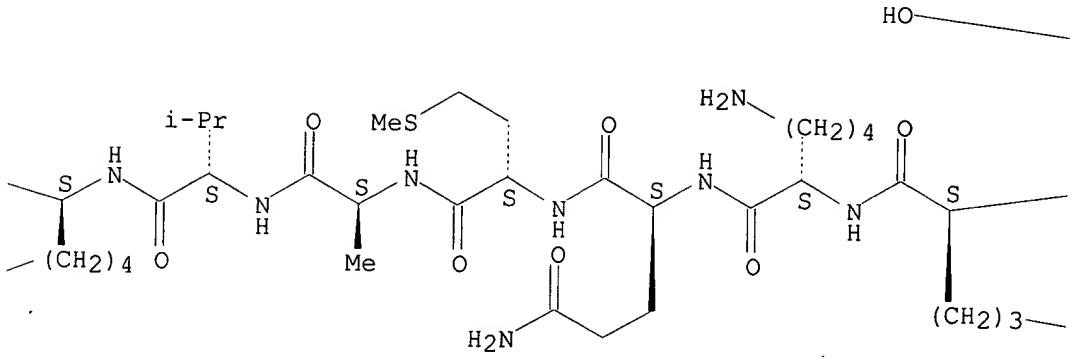
RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

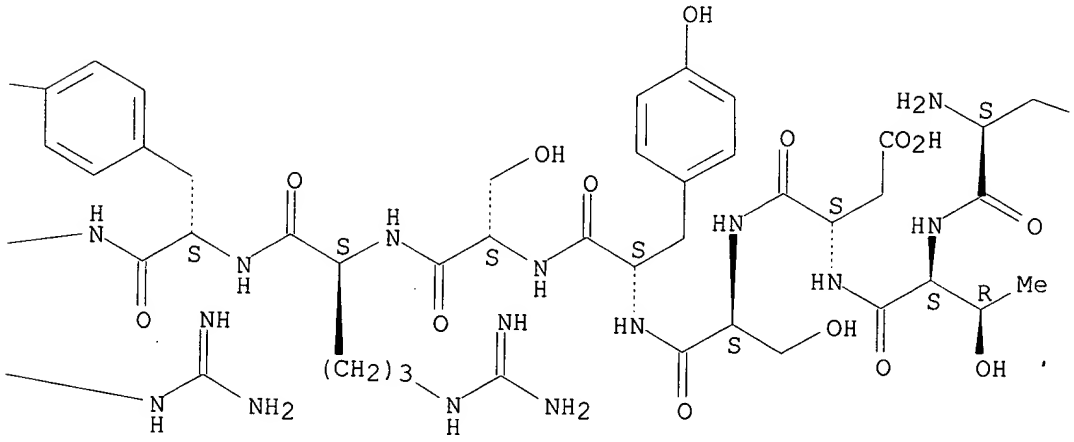
PAGE 1-A



PAGE 1-B



PAGE 1-C



PAGE 1-D

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21 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 140:87891

REFERENCE 2: 139:289131

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REFERENCE 4: 138:382313

REFERENCE 5: 131:284161

REFERENCE 6: 131:127837

REFERENCE 7: 131:127826

REFERENCE 8: 130:277007

REFERENCE 9: 129:184442

REFERENCE 10: 129:118191

L12 ANSWER 18 OF 21 REGISTRY COPYRIGHT 2004 ACS on STN
RN **129069-75-6** REGISTRY
CN Pituitary adenylate cyclase-activating peptide-27 (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Peptide PACAP 27
OTHER NAMES:
CN PACAP 27
CN Pituitary adenylate cyclase-activating polypeptide-27
MF Unspecified
CI MAN
SR CA
LC STN Files: BIOSIS, CA, CAPLUS, PHAR, TOXCENTER, USPATFULL

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
471 REFERENCES IN FILE CA (1907 TO DATE)
7 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
472 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 140:281826

REFERENCE 2: 140:266747

REFERENCE 3: 140:264796

REFERENCE 4: 140:247397

REFERENCE 5: 140:193199

REFERENCE 6: 140:175473

REFERENCE 7: 140:140065

REFERENCE 8: 140:71286

REFERENCE 9: 140:71247

REFERENCE 10: 139:289131

L12 ANSWER 19 OF 21 REGISTRY COPYRIGHT 2004 ACS on STN
RN **128606-20-2** REGISTRY
CN Pituitary adenylate cyclase-activating peptide-38 (9CI) (CA INDEX NAME)
OTHER NAMES:
CN PACAP 38
CN Peptide PACAP 38
CN Pituitary adenylate cyclase-activating polypeptide-38
MF Unspecified
CI MAN
SR CA
LC STN Files: BIOSIS, CA, CAPLUS, CIN, PHAR, TOXCENTER, USPATFULL

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
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7 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
705 REFERENCES IN FILE CAPLUS (1907 TO DATE)

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REFERENCE 3: 140:264796

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REFERENCE 6: 140:247362

REFERENCE 7: 140:193199

REFERENCE 8: 140:175424

REFERENCE 9: 140:175399

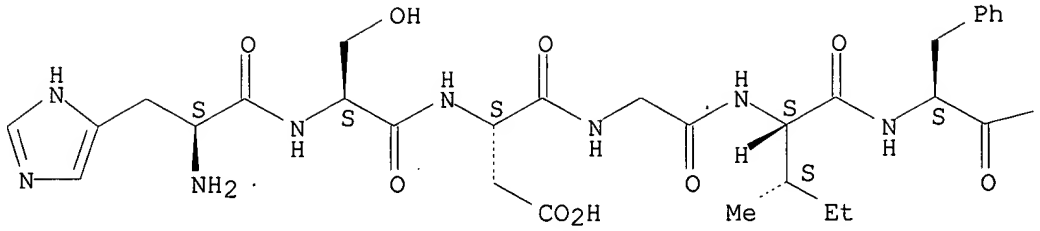
REFERENCE 10: 140:140065

L12 ANSWER 20 OF 21 REGISTRY COPYRIGHT 2004 ACS on STN
RN **127317-03-7** REGISTRY
CN Pituitary adenylate cyclase-activating peptide-27 (human) (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Vasoactive intestinal octacosapeptide (pig), 4-glycine-5-L-isoleucine-9-L-serine-11-L-serine-13-L-tyrosine-24-L-alanine-25-L-alanine-26-L-valine-27-L-leucinamide-28-de-L-aspartamide-
OTHER NAMES:
CN Human PACAP-(1-27)
CN Human PACAP-27
CN L-Leucinamide, L-histidyl-L-seryl-L-α-aspartylglycyl-L-isoleucyl-L-phenylalanyl-L-threonyl-L-α-aspartyl-L-seryl-L-tyrosyl-L-seryl-L-arginyl-L-tyrosyl-L-arginyl-L-lysyl-L-glutaminyl-L-methionyl-L-alanyl-L-valyl-L-lysyl-L-lysyl-L-tyrosyl-L-leucyl-L-alanyl-L-alanyl-L-valyl-
CN Ovine PACAP 27
CN Peptide PACAP 27 (sheep)
CN Pituitary adenylate cyclase-activating peptide-27 (sheep)
CN Pituitary adenylate cyclase-activating polypeptide-27 (human)
CN Rat PACAP-27
FS PROTEIN SEQUENCE; STEREOSEARCH
DR 198696-22-9
MF C142 H224 N40 O39 S
SR CA
LC STN Files: BIOSIS, CA, CAPLUS, CASREACT, CHEMCATS, TOXCENTER, USPATFULL

RELATED SEQUENCES AVAILABLE WITH SEQLINK

Absolute stereochemistry.

PAGE 1-A



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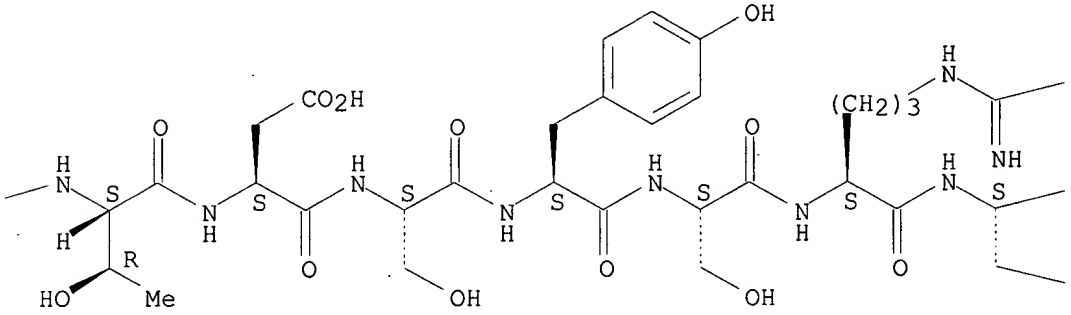
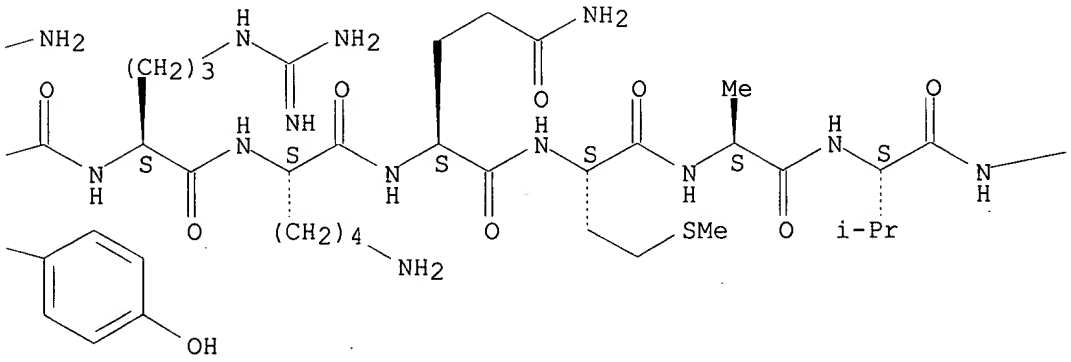
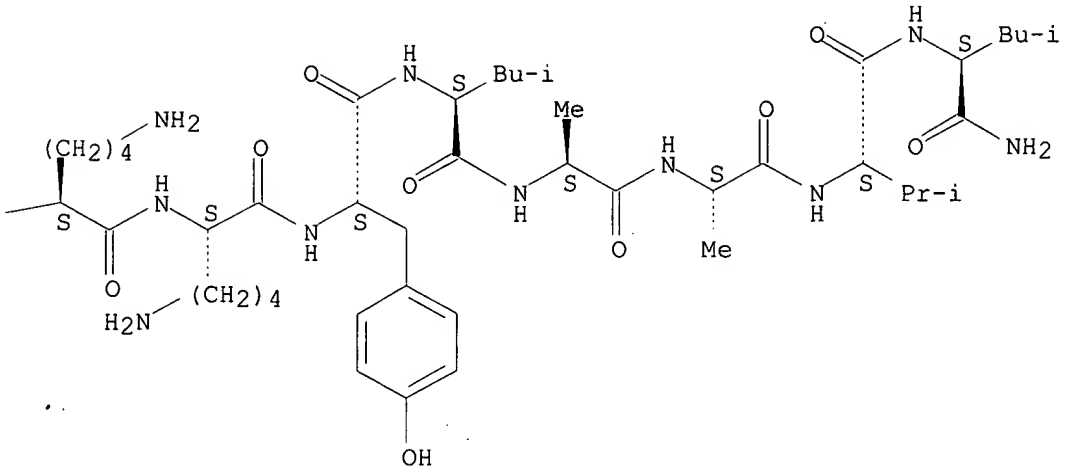


PAGE 1-C



PAGE 1-D



174 REFERENCES IN FILE CA (1907 TO DATE)
5 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
174 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 139:289223

REFERENCE 2: 139:31078

REFERENCE 3: 138:333720

REFERENCE 4: 138:218484

REFERENCE 5: 138:180937

REFERENCE 6: 138:131284

REFERENCE 7: 138:19718

REFERENCE 8: 137:363243

REFERENCE 9: 137:182621

REFERENCE 10: 137:16063

L12 ANSWER 21 OF 21 REGISTRY COPYRIGHT 2004 ACS on STN
RN **124123-15-5** REGISTRY
CN Pituitary adenylate cyclase-activating peptide-38 (human) (9CI) (CA INDEX NAME)
OTHER NAMES:
CN Human PACAP-(1-38)
CN Human PACAP-38
CN L-Lysinamide, L-histidyl-L-seryl-L-α-aspartylglycyl-L-isoleucyl-L-phenylalanyl-L-threonyl-L-α-aspartyl-L-seryl-L-tyrosyl-L-seryl-L-arginyl-L-tyrosyl-L-arginyl-L-lysyl-L-glutaminyl-L-methionyl-L-alanyl-L-valyl-L-lysyl-L-lysyl-L-tyrosyl-L-leucyl-L-alanyl-L-alanyl-L-valyl-L-leucylglycyl-L-lysyl-L-arginyl-L-tyrosyl-L-lysyl-L-glutaminyl-L-arginyl-L-valyl-L-lysyl-L-asparaginyl-
CN Ovine PACAP (1-38)
CN Ovine PACAP-38
CN PACAP 38 (human)
CN PACAP 38 (sheep)
CN Peptide PACAP (human clone pHT38P8)

CN Peptide PACAP (mouse clone λMPL4/λMPL18)
CN Peptide PACAP (sheep clone pOH38P7)
CN Peptide PACAP 38 (human)
CN Pituitary adenylate cyclase-activating peptide-38 (mouse clone λMPL4/λMPL18)
CN Pituitary adenylate cyclase-activating peptide-38 (sheep)
FS PROTEIN SEQUENCE
DR 136216-93-8, 142105-43-9
MF C203 H331 N63 O53 S
CI MAN
SR CA
LC STN Files: CA, CAPLUS, CHEMCATS, TOXCENTER, USPATFULL

RELATED SEQUENCES AVAILABLE WITH SEQLINK

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
*** USE 'SQD' OR 'SQIDE' FORMATS TO DISPLAY SEQUENCE ***
125 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
125 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 140:211326

REFERENCE 2: 139:289223

REFERENCE 3: 139:258398

REFERENCE 4: 139:3885

REFERENCE 5: 138:333720

REFERENCE 6: 138:218484

REFERENCE 7: 138:180937

REFERENCE 8: 138:66789

REFERENCE 9: 138:19759

REFERENCE 10: 137:363410